

**Cook Inlet Oil & Gas NPDES General Permit
and Environmental Assessment**

--Response to Public Comment--

*EPA Region 10
Office of Water
NPDES Permits Unit*

April 2007

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Response to Public Comments Submitted By:

Author Name: Robert Archibald

Organization: N/A

Comment ID CI-430.001

Good evening. For the record, my name is Robert Archibald, I live here in Homer. And first of all, I want you to know that I'm a little disappointed with the time that you've given us to prepare something to give you a factual reply to this. I know that more people have asked for an extension on the comment period, and I think that's probably in order.

Response

In response to numerous requests for an extension to the 60-day public comment period, EPA extended the review period an additional 30 days with the extension comments were due to EPA by May 31, 2006.

Comment ID CI-430.002

I'm kind of disappointed in the fact that we're trying to give industry more leeway in dumping more produced liquids in the upper Inlet. As I've talked to some of you people earlier, if you had been here during this Marine Science Symposium, you would understand a little bit more about how Cook Inlet is biologically stressed right now. In fact, the Beluga whales may end up on the endangered species list here before too long, which may have some impacts on what you folks are doing here tonight.

I don't think the science is in, and I think you may be a little premature in making the decision on this. So it would be my recommendation to go back and talk to the science people because I think we're leaving a big part of this equation out and it's going to revisit you in a big way. So that's all I have to say, thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response # 96

Response to Public Comments Submitted By:

Author Name: Michael Bezilla

Organization: N/A

Comment ID CI-320.001

I've worked in the Cook Inlet oilfield for the last 29 years. I started when I was 20 years old and back then our education and ideas of being environmentally concerned at that time was to make sure you covered the oil you drained from your personal vehicle and dumped in your backyard with some dirt, so no one would step in it or so it wouldn't be an eyesore.

Most of us have come a long way and become considerably more aware and proactive since then. From past and recent discussions with people that think "oil companies" are "bad" for the environment and they are the "terrible polluters," I have found a lot of these people in many ways are now the uneducated and unaware polluters in our society in comparison.

Through time, the oilfield workers have had more extensive training and education on prevention, cleanup and environmental concern than a lot of common people have today, but yet there is this stigma out there that anyone connected with the oilfield are these dirty polluting people. Generally speaking we make fair money for our work that consists of a lot of special training and educational requirements by the State and Federal governments along with the companies to protect the environment, their people and investments. We now tend to carry the good that we have learned through the years to our homes, family and neighbors.

My question and concern now is how much is too much environmental concern and reaction. How much do we spend and waste to get the same answers? Excess control of almost anything of this matter creates unnecessary costs, pollution and useless waste byproducts.

We presently sample and monitor, we sample and test, we sample and send to others to test and come up with pretty much the same results. The occasional exceedence is generally close to the limits and many of these are because the limits have become more stringent over the years because they were based on what practical science and by whom? To the best of my knowledge there has never been any long term major pollution deposits or water contamination found in the Cook Inlet in the many areas that were extensively tested, and are still being tested. Yet someone determined they needed to change the limits and the rules. Once again the permitting process is coming up and again to the best of my knowledge there is no sound reasoning, but the requirements are once again becoming more stringent, complex and confusing. Based on what science or findings in Cook Inlet?

I have been misinformed before so if there is a good answer to my questions or corrections to my knowledge of these things, please educate me some more. As you can see, I am very trainable and open to this subject as I no longer dump used oil in the backyard.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: Tom Chessher

Organization: Paradigm Engineering

Comment ID CI-240.001

I currently have a lot of affiliation with the Oil Industry and know that an oil producers cost to produce each barrel of oil is already high. How likely is the producer to go after new sources of oil if they do not have the capital to explore new technologies and new drilling? Both of these are very expensive and risky. I also have affiliation with the Construction Industry and understand their cost associated with Storm Water Pollution Prevention. While the two industries are different, the Construction industry can at least pass that cost along to the buyer. The oil and gas producer can only take the cost and hopefully regain them with increased production or ultimately stop production if the cost per barrel is not profitable enough to out weigh the risk evolved. Not all oil producers make the huge profits that some of the major oil corporations make, although they do account for a significant and important percentage of domestic oil production.

Response

Thank you for your comment

Comment ID CI-240.002

If profits for oil remain high, producers will continue to take risk. If profit margins are low, people willing to take risk will diminish. The United States has enough oil to eliminate our dependence on foreign oil. The oil producer is very aware of the consequences for pollution and the EPA. I hear oil producers talking about it all the time and they are respectful of the environment and the land that surrounds their natural resources, both surface and sub-surface. Oil and Gas producers work very long hours insuring that their investments are running smoothly. The smaller producers located throughout smaller communities and they are simple people. They are not going to be able to understand or implement; the detailed and vague manner in which the regulations have been written in past. While the regulations may be easy to interpret for people like us that are experienced with environmental compliance, the smaller producer is not going to be able to hire a consulting firm or engineering firm, nor will he be able to implement all of the techniques required to ensure compliance.

Response

Thank you for your comment

Comment ID CI-240.003

While I believe that there should be regulations for the oil and gas industry, I encourage the future regulations to take into account several items and take:

The economy.

There are thousands of small oil producers, these producers only make 200-1 000 barrels per month, they do not make much profit and would not be able to continue production or exploration efforts, with the new regulatory compliance regulations being historically invasive, disruptive, and hard to understand or implement, these smaller producers would slowly just stop producing. Not necessarily because it's not profitable but because these people don't like government pushing them around, they will just stop all together because they don't like problems, they are simple people.

Our dependence on foreign oil.

The technical aptitude of the Enforcement Officer would have to be extensive to understand how the oil is produced.

The risk of the oil business are significant.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Vicki Clark

Organization: Trustees For Alaska

Comment ID CI-140.001

These comments regarding EPA's Draft National Pollutant Discharge Elimination System ("NPDES") Permit AKG-31-5000 ("Permit"), Ocean Discharge Criteria Evaluation, Essential Fish Habitat Assessment, Biological Evaluation, Environmental Assessment and Finding of No Significant Impact, and the State of Alaska's Draft § 401 Certification are submitted on behalf of Cook Inletkeeper, Alaska Center for the Environment, Alaska Forum for Environmental Responsibility, Defenders of Wildlife, Kachemak Bay Conservation Society, Resurrection Bay Conservation Alliance, Eyak Preservation Council, and the Ocean Conservancy.

These comments were prepared with the assistance of Lois N. Epstein, P.E., an Alaska licensed civil engineer with a masters degree in environmental engineering and science, who is employed by Cook Inletkeeper.

These groups are concerned about the significant changes authorized by the Permit and the resulting impacts to water quality in Cook Inlet. The continued protection and maintenance of water quality is of vital significance and importance to the health of present and future Alaskans, the quality of fish and shellfish harvested from State and federal waters, and the marketing of fish and shellfish from Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 102

Response # 89

Response # 95

Comment ID CI-140.002

The overarching objective of the CWA “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” 33 U.S.C. § 1251(a). To achieve this objective, Congress established several goals, including: (1) eliminating the discharge of pollutants into navigable waters by 1985; (2) attaining water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water by July 1, 1983; and (3) prohibiting the discharge of toxic pollutants in toxic amounts. *Id.* While water quality has improved in many cases since the passage of the Federal Water Pollution Control Act (“Clean Water Act” or “CWA”), these three goals have not been attained. Similarly, the Permit does not attain these three goals for the oil and gas facilities in Cook Inlet, and in many ways, is significantly less stringent than current requirements. In fact, the Permit appears to turn the Clean Water Act completely on its head, by using discharge volumes provided by the dischargers themselves, with no apparent independent verification from the regulatory agencies, to drive effluent limits and mixing zones (i.e., “back calculating”), instead of the agencies applying long-standing EPA guidance and proper modeling parameters to the end-of-the-pipe discharge to meet water quality standards. Thus, the Permit does not meet the goals or the letter of the Clean Water Act.

Response

Please reference the following in the Response to Comment Document:

Response # 61

Comment ID CI-140.003

As a preliminary matter, the most positive aspects of the Permit are the requirements for ambient monitoring for existing and new facilities, and baseline monitoring for new facilities.

Response

Please reference the following in the Response to Comment Document:

Response # 14

Response # 5

Comment ID CI-140.004

We also support the Permit provisions expanding the areas within which discharges are prohibited.

Response

Thank you for your comment

Comment ID CI-140.005

A General Permit is Not Warranted in this Case, and Individual Permits Should Be Required.

A general permit is a single NPDES permit that covers a number of similarly situated discharges that would otherwise require individual NPDES permits. 40 CFR § 122.28. The benefit of the general permit process for individual dischargers is that approval is substantially faster and less expensive than applying for individual permits. The general permit process, however, can be used to circumvent the individualized assessments that demonstrate the need for an individual permit. This strategy has been successfully employed by operators of the Cook Inlet facilities, and in light of substantial differences between the various facilities in Cook Inlet, EPA should require individual NPDES permits.

Specifically, general permits are permissible only where the point sources: (1) involve the same or similar types of operations; (2) discharge the same types of wastes; (3) require the same effluent limitations, or operating conditions; (4) require the same or similar monitoring; and (5) the Director determines that the sources are more appropriately controlled under a general permit than individual permits. 40 CFR § 122.28(a)(2)(ii). In this case, however, the Permit does not require the same effluent limitations or operating conditions for all the covered facilities. See, Permit, pp. 37-42. The Permit covers oil and gas exploration, development, and production facilities in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category, as defined in 40 CFR Part 435, Subpart D. See, Permit. These facilities are onshore treatment facilities and offshore production platforms. Each facility has significantly different proposed effluent limitations and mixing zones, as well as different operational parameters. There are currently four discharge points from the permitted facilities in Cook Inlet, and their 2005 produced water and oil and grease discharges, and overall percentages of total discharges, are provided in Table 1 below [Table 1, page 3].

Bruce Platform is the only platform discharging produced water directly to Cook Inlet. Granite Point Production Facility processes produced water discharges from Granite Point Platform, East Foreland Treatment Facility processes produced water discharges from Platforms “A” and “C,” and Trading Bay Production Facility (“TBPF”) processes produced water discharges from Dolly Varden, Steelhead, Grayling, King Salmon and Monopod Platforms. Platforms Spark, Anna, and Tyonek reinject produced water (zero discharge), and Platforms Dillon, Baker, and Spurr are currently shut in. In addition, as shown in Table 1, TBPF discharges nearly 96% of the total produced water discharges authorized under the Permit, with the other discharge points emitting approximately 4% of the total discharges.

Further, in the Permit, EPA may require an individual permit if the discharger is not in compliance with the conditions of the permit. See Permit, § I.H.1.a; Current permit, § I.E.1.b. A modeling analysis of current discharges demonstrates that water quality standards are likely not being met at the edge of the 300-meter TAH/TAqH mixing zone for TBPF. See Review of Draft NPDES General Permit For Cook Inlet, Alaska Oil and Gas Operators (“LaLiberte Report”), David LaLiberte of Liberte Environmental Associates (May 31, 2006) pp. 4, 14, 33. However, rather than strengthening the permit requirements to address this noncompliance, DEC increased mixing zone lengths by an order of magnitude in some cases. Thus, because the effluent limitations in the Permit are different for each facility, the operating conditions at each facility vary significantly, and water quality standards are not being met at the edge of the TBPF

TAH/TAqH mixing zone, a general permit is not warranted for these facilities, and EPA should require individual permits, especially for TBPF, the largest discharger under the Permit.

Footnotes

This chart is a reproduction of Table 5 from the accompanying report by Cook Inletkeeper, Dishonorable Discharges: How to Shift Cook Inlet's Offshore Oil and Gas Operations to Zero Discharge ("Cook Inletkeeper Report").

Response

Please reference the following in the Response to Comment Document:

Response # 104

Response # 105

Response # 63

Comment ID CI-140.006

Section 403 of the Clean Water Act prohibits the issuance of an NPDES permit for discharge into the territorial sea, the waters of the contiguous zone, or the oceans, unless in compliance with guidelines for determining whether receiving waters will be unreasonably degraded. 33 U.S.C. § 1343(a). Thus, EPA must determine whether a discharge will cause unreasonable degradation of the marine environment based on consideration of:

- (1) The quantities, composition and potential for bioaccumulation or persistence of the pollutants to be discharged;
- (2) The potential transport of such pollutants by biological, physical or chemical processes;
- (3) The composition and vulnerability of the biological communities which may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of species identified as endangered or threatened pursuant to the Endangered Species Act, or the presence of those species critical to the structure or function of the ecosystem, such as those important for the food chain;
- (4) The importance of the receiving water area to the surrounding biological community, including the presence of spawning sites, nursery/forage areas, migratory pathways, or areas necessary for other functions or critical stages in the life cycle of an organism.
- (5) The existence of special aquatic sites including, but not limited to marine sanctuaries and refuges, parks, national and historic monuments, national seashores, wilderness areas and coral reefs;
- (6) The potential impacts on human health through direct and indirect pathways;
- (7) Existing or potential recreational and commercial fishing, including finfishing and shellfishing;
- (8) Any applicable requirements of an approved Coastal Zone Management plan;
- (9) Such other factors relating to the effects of the discharge as may be appropriate;
- (10) Marine water quality criteria developed pursuant to section 304(a)(1).

40 CFR § 125.122(a). These guidelines set a high standard to prohibit permit issuance on the basis of unreasonable degradation to the marine environment, and as a result, EPA has a nondiscretionary duty to determine whether a discharge will cause such degradation.²

However, Section 403 of the CWA also establishes that if “insufficient information exists on any proposed discharge to make a reasonable judgment on any of the guidelines established . . . no permit shall be issued. . . .” 33 U.S.C. § 1343(c).

EPA can overcome this requirement only if it determines that:

- (1) Such discharge will not cause irreparable harm to the marine environment during the period in which monitoring is undertaken, and
- (2) There are no reasonable alternatives to the on-site disposal of these materials, and
- (3) The discharge will be in compliance with all permit conditions established pursuant to paragraph (d) of this section. 40 CFR § 125.123(c).

A. There is insufficient information to find no unreasonable degradation of the marine environment.

In this case, based on the Ocean Discharge Criteria Evaluation for the Cook Inlet NPDES Permit (“ODCE”), there is insufficient information for EPA to make a reasonable judgment on several of the ten factors. In fact, EPA ignored important information that suggests unreasonable degradation could

occur. If there is insufficient information for any one of the ten factors, a permit cannot be issued, and because there is insufficient information for more than one factor in this case, the Permit cannot be issued.

1. Quantities, composition, and potential for bioaccumulation or persistence of pollutants to be discharged.

The information on the quantities, composition, and potential for bioaccumulation or persistence of the pollutants to be discharged is insufficient. Section 5 of the ODCE discusses the toxicity and bioaccumulation potential of the discharges. In that section, dilution rates of 1,000 to 1 million to one are considered. See ODCE, pp. 57-58, 112. Yet there is no justification for these dilution rates provided in the ODCE, and at those rates, the most toxic pollutants could potentially be diluted to insignificance. As shown in the LaLiberte Report, the modeling performed by DEC and the Cook Inlet operators' consultant, Parametrix, contains the wrong assumptions and inputs for the Cook Inlet environment, which resulted in overestimated effluent limitations, dilution rates, and mixing zones. See LaLiberte Report, pp. 1-2, 16-28, 32-34. The ODCE's conclusion that low bioaccumulation or persistence of contaminants is a result of "minimal pollutant concentrations and/or low volume of the remaining discharges" is therefore unsupported. ODCE, p. 111.

In addition, the ODCE states, Petrazzuolo (1983b) states that due to the persistence of metals, the high toxicity of some metals, the paucity of laboratory data on mercury, and the inability to correlate field and laboratory measures, a finding of no significant potential effect is inappropriate at this time (Avanti 1991).

ODCE, p. 54. In addition, EPA's own testing has revealed heavy metals in Cook Inlet subsistence fish and shellfish, and because such heavy metals are the same types as those found in Cook Inlet oil and gas waste streams, EPA's ODCE must factor in such information.⁴ Thus, there is insufficient data on the persistence of metals to support a finding of no unreasonable degradation of the marine environment.

Further, the ODCE fails to consider the toxic effects of oil and oil constituents, especially in light of research stemming from the Exxon Valdez oil spill ("EVOS") that shows polycyclic aromatic hydrocarbons ("PAH") are more toxic and persistent than previously known. The "old paradigm" of oil toxicology relies on outdated methods and research, and focuses on short term, acute effects to marine organisms. EVOS research by the National Marine Fisheries Service's ("NMFS") Auke Bay Laboratory, however, shows that long term, chronic harm to salmon can result from PAH concentrations as low as 1 part per billion ("ppb").⁵ Additionally, North Sea researchers have increasingly recognized potential problems with alkylphenols – another constituent of produced water – and their adverse hormone-mimicking effects on cod and other fish. As a result, the ODCE must consider both the acute and chronic effects of produced water and other wastes on marine organisms likely to be affected by the permitted discharge points.

Moreover, the finding of no unreasonable degradation of the marine environment is based upon the installation of a diffuser to reduce pollutant concentrations at the TBPF. The diffuser will not be installed for up to two years, and there is no analysis of the impacts of the discharge during the two years before the diffuser is installed. Furthermore, the diffuser will only affect dispersion and mixing, and not pollutant loading, which is slated to increase under the Permit. Thus, there is insufficient

information regarding the actual impacts of the discharge in the first two years of the Permit term specifically, and long term impacts generally.

An additional problem is that the ODCE assumes that the facilities covered by the Permit will be in compliance with Permit requirements. See ODCE, pp. 31, 105, 111. Based on historical performance, that compliance cannot be assumed. In 1994, Greenpeace, Trustees for Alaska, and Alaska Center for the Environment filed suit against Unocal, Marathon, and Shell-Western for violations of the NPDES permit in effect at that time. The groups documented thousands of violations of the Clean Water Act, and the operators paid nearly \$2 million in penalties and supplemental environmental projects in 1995.

In November 2002, however, Unocal approached EPA to settle hundreds of violations found in an internal "audit," as well as other violations disclosed in Unocal's DMRs during the period 1998 through 2002. That settlement negotiation resulted in Consent Agreement and Final Orders assessing \$650,675 in penalties against Unocal's Cook Inlet facilities for over 700 violations. During roughly the same time period, XTO Energy and ConocoPhillips stepped forward with additional violations, and agreed to pay substantial civil penalties. Importantly, these violations were the same or similar to the violations documented in the 1995 settlement, and as a result, chronic noncompliance appears to be a standard business practice among Cook Inlet operators.

Furthermore, a breach along the surface casing of Injection Well K-19 at the King Salmon platform has also been discovered, where an oil-diesel discharge cannot be contained and occurs intermittently. While the discharge will continue for years to come, no action will be taken. Accordingly, these chronic violations must be considered in the ODCE. Because they are not, there is insufficient information to support a finding of no unreasonable degradation of the marine environment under this factor.

2. The potential transport of such pollutants by biological, physical, or chemical processes.

The ODCE findings on this factor relate mainly to the dilution rates of the pollutants. As discussed in the section V.C., there is no justification in the ODCE for the exorbitant dilution rates for various pollutants. As a result, there is insufficient information to make a finding of no unreasonable degradation of the marine environment.

In addition, in the discussion of marine water quality, the ODCE states, The volume and concentrations of pollutants in the discharges from oil and gas facilities in Cook Inlet covered under the proposed NPDES general permit are expected to meet human health water quality criteria at the end-of-pipe, as well as water quality criteria for the protection of aquatic life. Therefore, there is little potential for discharges to exceed marine water quality criteria.

ODCE, p. 110. The first statement is simply not true. The criteria are required to be met at the edge of the mixing zones. The ODCE analysis must be performed based upon actual discharges, which will exceed water quality criteria within mixing zones and therefore will not meet water quality standards at the end-of-pipe. Thus, at this time, there is insufficient information to support a finding of no unreasonable degradation of the marine environment under this factor.

3. The composition and vulnerability of the biological communities that may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of

species identified as endangered or threatened pursuant to the Endangered Species Act, or the presence of those species critical to the structure or function of the ecosystem, such as those important for the food chain.

Under the existing permit and previous permits, no ambient water quality monitoring has been performed. As a result, there is no data to assess the impact of the discharges to vulnerable biological communities, especially as it relates to the increased pollutant loading that is allowed under the Permit.

The ODCE recognizes that beluga whales, northern sea otters, and Steller sea lions are vulnerable biological communities in Cook Inlet. Beluga whales are listed as “depleted” under the Marine Mammal Protection Act, and a petition to list the Cook Inlet population under the Endangered Species Act was filed with NMFS in April of 2006. The Cook Inlet beluga population continues to decline despite restrictions on subsistence hunting. Regrettably, in the forty-plus year history of offshore oil and gas development in Cook Inlet, neither industry nor EPA has attempted to understand the potential noise, pollution, or habitat impacts on the beluga whale from oil and gas activities. Accordingly, until more ambient water quality data is gathered and analyzed, there is insufficient information to find no unreasonable degradation of the marine environment under this factor.

4. The potential impacts on human health through direct and indirect pathways.

The ODCE finds that there is no direct exposure pathway to humans from the permitted discharges. There are, however, indirect impacts from direct consumption of species exposed to the discharges. There is insufficient information to determine whether there is unreasonable degradation of the marine environment under this factor because no comprehensive study has been undertaken to evaluate subsistence exposures.

In December 2003, EPA released the Survey of Chemical Contaminants in Fish, Invertebrates and Plants Collected in the Vicinity of Tyonek, Seldovia, Port Graham and Nanwalek – Cook Inlet, AK. While the Survey is a good first step, its study design, methodology, and analysis have been questioned, from within EPA, and by others. Limited species were collected (i.e., no Dolly Varden or marine mammals), and the animals that were collected were smaller than those typically harvested for consumption, which does not provide adequate information because concentrations of contaminants tend to increase with the age and size of animals. The species were also collected at the same time of year, which does not provide a complete picture of contaminant concentration since concentrations vary during the year. Further, the specimens were analyzed as “whole animal” and “composite” samples. The whole body of the animal was analyzed, which would lower contaminant concentrations from the parts that people actually eat, and several organisms were considered together for laboratory analysis.

Nonetheless, the Survey’s raw data identified a disturbing array of contaminants in a variety of subsistence foods. For example, every single fish, shellfish, and invertebrate sample collected had detectable levels of trace metals, and cumulative metals concentrations in some samples (e.g., snails) raise serious concerns. Furthermore, every single fish sample tested had detectable levels of PAHs; in fact, PAH levels were found as high as 553 ppb in Chinook (“King”) salmon. Importantly, the EPA Survey cannot eliminate oil and gas waste streams as potential sources for the contaminants found in the project samples. Thus, despite the Survey’s flaws, its data suggest degradation from offshore oil

and gas industry-type wastes.

Moreover, if adequate information demonstrates a “[t]hreat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms,” that threat meets the definition of “unreasonable degradation of the marine environment.” 40 CFR § 125.121(e)(2). Clearly, the Survey’s data expose a “threat” to human health, especially in light of the heavy reliance on subsistence seafoods by local Alaska Natives, and as a result, presents an “unreasonable degradation of the marine environment.”

In addition, the ODCE does not fully analyze the impacts to human health from the discharges. Specifically, there is no consideration of 40 CFR § 110.3. EPA has determined that discharges of oil “may be harmful to the public health or welfare or the environment” if the discharge “cause[s] a film or sheen upon or discoloration of the surface of the water or adjoining shorelines. . . .” 40 CFR § 110.3(b). Until an analysis of this impact is performed, there is insufficient information to find no unreasonable degradation of the marine environment based on human health impacts.

Footnotes

2 The OCDE analysis takes on heightened importance now, in light of the fact that the substantive protections previously provided under the Alaska Coastal Management Program’s enforceable policies for subsistence and habitat protection, among others, have been rendered superfluous by recent legislative changes.

3 In the Overview of Report section, the ODCE states, “This evaluation focuses on sources, fate, and potential effects of discharges of exploratory, development, and production activities from platform-based oil and gas operations on various groups of aquatic life.” ODCE, p. 8 (emphasis added). This appears to be a misstatement because there are references to the onshore facilities covered by the Permit as well as to stormwater discharges from those facilities.

4 See, generally, EPA, Survey of Chemical Contaminants in Fish, Invertebrates and Plants in the Vicinity of Tyonek, Seldovia, Port Graham & Nanwalek - Cook Inlet, AK (EPA-910-R-01-003).

5 See, e.g., Heintz, R.A., S.D. Rice, A.C. Wertheimer, R.F. Bradshaw, F.P. Thrower, J.E. Joyce, and J.W. Short. 2000. Delayed effects on growth and marine survival of pink salmon *Oncorhynchus gorbuscha* after exposure to crude oil during embryonic development. *Mar. Ecol. Prog. Ser.* 208: 205-216; Heintz, R. A., J. W. Short, and S. D. Rice. 1998. Sensitivity of Fish Embryos to Weathered Crude Oil: Part II. Increased Mortality of Pink Salmon (*Oncorhynchus gorbuscha*) Embryos Incubating Downstream from Weathered Exxon Valdez Oil Spill. *Environmental Toxicol. And Chem.* 18(3):494-503.

6 See, e.g., Meier, S., Anderson, T.E., Hasselberg, L., Kjesbu, O.S., Klungsoyr, J., and Svardal, A., Hormonal effects of C4-C7 alkylphenols on cod (*Gadus morhua*). 2001. Norway Institute of Marine Research.

Response

EPA disagrees that there is insufficient information in the ODCE upon which to make the necessary determinations. The ODCE has been revised to reflect that it is applicable to offshore waters which are those south of the south end of Kalgin Island. Discharges from existing facilities are located within coastal waters and are not included in the ODCE. The permit does not cover muds, cuttings, and produced water discharges from new sources within these waters.

EPA believes that the ODCE provides an adequate assessment of the potential for bioaccumulation. While various studies indicate the detection of heavy metals and hydrocarbons in some samples; the source of these contaminants is not clear and could include urban runoff, natural background, and combustion products. There is no evidence that the source is from existing discharges from oil and gas facilities.

Comment ID CI-140.007

B. EPA cannot “save” the Permit.

As discussed above, EPA can issue an NPDES permit over a showing of insufficient information to find no unreasonable degradation of the marine environment only if it determines that: (1) Such discharge will not cause irreparable harm to the marine environment during the period in which monitoring is undertaken, and (2) There are no reasonable alternatives to the on-site disposal of these materials, and (3) The discharge will be in compliance with all permit conditions established pursuant to paragraph (d) of this section.

40 CFR § 125.123(c). EPA must make all of these findings to issue the Permit. In this case, EPA cannot make the second and third findings. As demonstrated in the Cook Inletkeeper Report, there are reasonable alternatives to the discharges authorized by the Permit -- namely, waste reinjection (i.e., zero discharge).

“No reasonable alternatives” means: (1) No land-based disposal sites, discharge point(s) within internal waters, or approved ocean dumping sites within a reasonable distance of the site of the proposed discharge the use of which would not cause unwarranted economic impacts on the discharger, or, notwithstanding the availability of such sites, (2) On-site disposal is environmentally preferable to other alternative means of disposal after consideration of: (i) The relative environmental harm of disposal on-site, in disposal sites located on land, from discharge point(s) within internal waters, or in approved ocean dumping sites, and (ii) The risk to the environment and human safety posed by the transportation of the pollutants.

40 CFR 125.121(d). As demonstrated in the Cook Inletkeeper Report, there is no economic or environmental basis for not requiring zero discharge of all the facilities covered by the Permit. Thus, there are reasonable alternatives to the discharges authorized by the Permit.

The third finding requires that “[t]he discharge will be in compliance with all permit conditions established pursuant to paragraph (d) of this section.” 40 CFR § 125.123(c)(3). Paragraph (d) provides: All permits which authorize the discharge of pollutants pursuant to paragraph (c) of this section shall:

- (1) Require that a discharge of pollutants will: (A) Following dilution as measured at the boundary of the mixing zone not exceed the limiting permissible concentration for the liquid and suspended particular phases of the waste material as described in § 227.27(a)(2) and (3), § 227.27(b), and § 227.27(c) of the Ocean Dumping Criteria; and (B) not exceed the limiting permissible concentration for the solid phase of the waste material or cause an accumulation of toxic materials in the human food chain as described in § 227.27(b) and (d) of the Ocean Dumping Criteria;
- (2) Specify a monitoring program, which is sufficient to assess the impact of the discharge on water, sediment, and biological quality including, where appropriate, analysis of the bioaccumulative and/or persistent impact on aquatic life of the discharge;
- (3) Contain any other conditions, such as performance of liquid or suspended particulate phase bioaccumulation tests, seasonal restrictions on discharge, process modifications, dispersion, of pollutants, or schedule of compliance for existing discharges, which are determined to be necessary because of local environmental conditions, and
- (4) Contain the following clause: In addition to any other grounds specified herein, this permit shall

be modified or revoked at any time if, on the basis of any new data, the director determines that continued discharges may cause unreasonable degradation of the marine environment.

40 CFR § 125.123(d). In this case, the Permit does not specify the second requirement for a monitoring program that is adequate to assess the impact of the discharge on water, sediment, and biological quality, especially analysis of bioaccumulative and/or persistent impact of the discharge on aquatic life. Comments submitted on the Permit by the Cook Inlet Regional Citizens Advisory Council (“CIRCAC”) note the general inadequacies in the proposed monitoring regime. The Permit also does not provide for the local environmental conditions in the third requirement, nor does it contain the required clause in the fourth requirement. Thus, EPA cannot “save” the Permit from the lack of sufficient information to support a finding of no unreasonable degradation of the marine environment, and the Permit cannot be issued.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 6

Response # 93

Comment ID CI-140.008

III. The Permit Should Require Zero Discharge.

The Fact Sheet for the Permit discusses the basis for permit conditions, including technology-based limits established in effluent limitations guidelines (“ELG”) pursuant to Section 304 of the CWA. See 33 U.S.C. § 1314(a). The Fact Sheet states that since EPA has established ELGs that do not require zero discharge for oil and gas point sources in the coastal subcategory, the Permit may not impose more stringent technology-based limits, “unless such limits are needed to ensure that State water quality standards are met.” Fact Sheet, p. 25. See also 40 CFR Part 435, Subpart D. This again is not true.

A number of cases have been decided regarding whether ELGs can establish single-numbered limitations for discharges from point source categories or whether, instead, a “range” of effluent limitations is required. Generally, the courts have found that a “range” is not required. See, e.g., *E.I. DuPont de Nemours and Co. v. Train*, 430 U.S. 112, 128, 97 S.Ct. 965, 976, 51 L.Ed.2d 204 (1977); and *American Frozen Food Inst. v. Train*, 539 F.2d 107, 140 (D.C. Cir. 1976). The DC Circuit stated: “if there were such a requirement, it would be met by the fact that the permit issuing authority under [section] 402 (state or federal) will clearly be able to employ any limitation it finds appropriate for a specific plan which falls between a ‘range’ of zero pollutant discharge and the nationally set effluent limitations.”

American Frozen Food Inst., 539 F.2d at 140. Thus, EPA does have the authority to require more stringent effluent limitations than those provided in ELGs even if the stringency is not required to ensure water quality standards are met.

Further, EPA promulgated guidance on ELGs that provides discretion to permit writers on this point. In the Technical Support Document for the 2004 Effluent Guidelines Program Plan (August 2004) (“ELG Guidance”), EPA discussed the exemption from zero discharge for Cook Inlet facilities. The ELG Guidance noted that the Osprey Platform had been individually permitted and required zero discharge, which was economically and technically achievable for that project. ELG Guidance, p. 5-230. Despite that new analysis, EPA decided not to revise effluent guidelines for the coastal subcategory, but it did grant discretion to the permit writer to require zero discharge: Given the 16-year lag between NSPS projects, the ability of the permit writer to require an operator to demonstrate that zero discharge is not technically feasible for a specific project, and the relatively low toxicity of the discharges, EPA decided not to revise effluent guidelines for drill cuttings [or produced water] at this time.

ELG Guidance, pp. 5-230, 5-231. Thus, while the ELG Guidance’s reference to “low toxicity” appears to contradict the large mixing zones that would be authorized under the Permit to dilute effluents sufficiently, it provides discretion for the permit writer for this project (the Permit) to require operators to demonstrate that zero discharge is not technically feasible. As a result, the blanket statements in the Fact Sheet that the Permit cannot impose zero discharge are false.

The Fact Sheet further states that EPA has determined that zero discharge is not necessary based upon a reasonable potential analysis and the State’s Draft Section 401 Certification that water quality standards will not be exceeded. Fact Sheet, p. 25. As discussed in Section IV, the State’s Draft

Section 401 Certification and the reasonable potential analysis are based upon inaccurate dilution rates and faulty legal analyses, which cannot justify a determination that zero discharge is not warranted. Further, EPA is requiring zero discharge for new oil and gas facilities in Cook Inlet despite the ELG exemption from zero discharge in Cook Inlet for new sources. See 40 CFR § 435.45.

This arbitrary application of the exemption is completely unjustified, and it is particularly egregious because zero discharge has been implemented at Platforms Anna, Spark, and Tyonek. EPA's posture in Cook Inlet also turns its entire regulatory regime on its head, requiring smaller mixing zones (i.e., 100 m) in offshore waters which presumably mix more thoroughly than the shallower coastal waters in Cook Inlet, where EPA allows mixing zones distances of over a mile in the Permit. The Cook Inletkeeper Report provides a further analysis of why zero discharge is technically and economically achievable. As a result, zero discharge should be required for existing facilities as well as for new facilities in all areas covered under the Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-140.009

IV. The State's Draft § 401 Certification

The State “certifies that there is reasonable assurance that the proposed activities, as well as any discharge that may result, are in compliance with the requirements of Section 401 of the Clean Water Act, which includes the Alaska Water Quality Standards (18 AAC 70).” Draft 401 Certification of NPDES Permit No. AKG-31-5000 (formerly AKG-28-5000) Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters provided the EPA under letter of February 17, 2006 (“401 Certification”), p. 3. This certification is illegal because (1) the discharges violate antidegradation requirements, (2) the authorized mixing zones are based upon computer modeling that uses inaccurate assumptions, and (3) the backsliding analysis is legally flawed.⁷

A. The State's 401 Certification violates antidegradation requirements.

When EPA revises permitting standards and limitations, the revision must be consistent with the state's antidegradation policy (“ADP”). 33 U.S.C. § 1313(d)(4)(B); Handbook, p. 4-10.

Antidegradation is not defined in statute or regulation, but it is a procedure to be followed when evaluating activities that may impact water quality. The implementation of that procedure is meant to ensure that water quality is maintained or improved, and that it may not be degraded.

Federal regulation requires that states include an ADP that is no less stringent than the federal ADP in every water quality standards package submitted to the EPA for review. See 40 C.F.R. §131.6(d). The federal ADP delineates different levels of protection for three different “tiers” of water quality. Tier 1 sets the minimum level of water quality to protect all existing uses of a waterbody: water quality may be lowered only if “existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected.” 40 C.F.R. §131.12(a)(1). Tier 2 provides the protection “necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water” to waters whose quality already exceeds the Tier 1 level and allows for reduction in quality only if, after a full public process and intergovernmental coordination, it is “necessary to accommodate important economic and social development.” 40 C.F.R. § 131.12(a)(2). “In allowing such degradation or lower water quality, the State shall assure water quality adequate to protect existing uses fully.” *Id.* Tier 3 waters are those waters that have been designated as Outstanding Natural Resource Waters (“ONRW”). These waters include waters in National Parks, National Wildlife Refuges, and waters of “exceptional recreational or ecological significance.” 40 C.F.R. § 131.12(a)(3).

EPA's antidegradation regulation also requires the State to “identify the methods for implementing such policy. . . .” 40 C.F.R. § 131.12(a). For compliance and enforcement purposes, this is the most important part of the antidegradation requirement. The procedures developed to implement the ADP must be designed to: (1) prohibit any degradation in some waters; (2) minimize the impacts of degrading activities in others; and (3) assure that in every case, existing uses are protected.

Although EPA guidance indicates that some type of review process is required for all three tiers of antidegradation policy, the review process is especially important in the context of waters protected by Tier 2. See Handbook, pp. 4-6 – 4-9. Whenever any lowering of water quality occurs under Tier 2, the antidegradation regulation requires a state to: (1) determine whether the degradation is “necessary

to accommodate important economic or social development in the area in which the waters are located”; (2) consider less degrading alternatives; (3) ensure that the best available pollution control measures are used to limit degradation; and (4) guarantee that, if water quality is lowered, existing uses will be fully protected. 40 C.F.R. § 131.12(a)(2); Handbook, p. 4-7.

Alaska, like many states, has adopted the federal ADP “3-tier” requirements: It is the state’s antidegradation policy that:

- (1) existing uses and the level of water quality necessary to protect existing uses must be maintained and protected;
- (2) if the quality of a water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected unless the department, in its discretion, upon application, and after compliance with (b) of this section, allows the reduction of water quality for a short-term variance under 18 AAC 70.200, a zone of deposit under 18 AAC 70.210, a mixing zone under 18 AAC 70.240, or another purpose as authorized in a department permit, certification, or approval; . . .
- (3) if a high quality water constitutes an outstanding national resource, such as a water of national or state park or wildlife refuge or a water of exceptional recreational or ecological significance, the quality of that water must be maintained and protected . . .

18 AAC 70.015(a). DEC has not, however, established implementation procedures⁸ for its ADP as required by EPA, and as a result, it cannot perform an antidegradation analysis for revised permitting standards and limitations in the Permit.⁹ See Handbook, p. 4-10. Thus, when the State says in its cover letter for the 401 Certification that it “makes a preliminary finding that any reduction in natural water quality of Cook Inlet to be in accord with the requirements of 18 AAC 70.015, Antidegradation Policy,” there is no basis for the finding because no antidegradation implementation analysis could be performed. 401 Certification, p. 1. Further, even if the State had a basis for the analysis, there is no antidegradation discussion in the 401 Certification; indeed, after the first page of the 401 Certification, the word antidegradation is not even mentioned. Thus, the 401 Certification, which authorizes reduced effluent limitations and significantly larger mixing zones, violates antidegradation requirements.

B. The mixing zone calculations are legally flawed.

The State proposes to authorize different mixing zones for different waste streams, and individually determined mixing zones for each facility. These mixing zones are based on legally flawed calculations and violate Alaska’s mixing zone regulations (18 AAC 70.240-.270).

As described in the LaLiberte Report, the modeling performed for the Permit does not accurately reflect the conditions in Cook Inlet. Slack tide conditions were not adequately modeled, site-specific ambient flow velocities were not used, vertical density conditions (i.e., ambient stratification) for the Cook Inlet sites were ignored, the non-uniform vertical profiles for ambient velocities in Cook Inlet were ignored, and inaccurate tidal simulations were used. See LaLiberte Report, pp. 1-2, 16-28, 32-34. Because the modeling for the Permit is not accurate, the State did not ensure the smallest possible mixing zones for the Permit, which violates 18 AAC 70.240(a)(2).

In addition, because the modeling inputs do not accurately reflect the hydrodynamics of Cook Inlet,

the lengths of the mixing zones are ridiculously large, and likely violate the size requirements of Alaska's mixing zone regulations. See 18 AAC 70.255(e)(1) (in mixing zones in estuarine and marine environments, the cumulative linear length of all mixing zones intersected on any cross section cannot exceed 10% of the total length of that cross section, nor can the horizontal length exceed 10% of the surface area).

Another issue that is of special concern in the Permit is the mixing zone for TAH/TAqH for TBPF. The 401 Certification provides for a mixing zone of 2,418 meters. However, that is the mixing zone length that will be required after the diffuser is installed, sometime in the next two years. There is absolutely no discussion of the 2-year compliance schedule and the increased mixing zone of 5,791 meters for the first two years of the Permit, and whether or not there is reasonable assurance that water quality standards will be achieved. This blatant disregard of key facts is at best misleading, and casts a legal pall over the entire certification process.

C. The State's backsliding analysis is legally flawed.

The Clean Water Act prohibits backsliding of effluent limitations: A permit applicant may not obtain a renewed, reissued, or modified permit that contains less stringent effluent limitations than the comparable effluent limitations from the previous permit, unless the relaxed permit does not violate the state or federal antidegradation policy. See 33 U.S.C. § 1342(o)(1). Backsliding may also be allowed where information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

33 U.S.C. § 1342(o)(2)(B)(i). See also 40 CFR § 122.44(l)(2)(i)(B)(1).10

The Permit would allow backsliding for TAH, TAqH, total mercury, total copper, and whole effluent toxicity ("WET") limits, and for most of the mixing zones for the existing facilities. The 401 Certification claims that the State reviewed the proposed mixing zones under the anti-backsliding provisions of the CWA and found: Because the previous permit modeling was based on a different modeling software package (PLUMES) with comparatively little data to support the modeling, and given that there is extensive new data from the current permit's monitoring results, DEC does not believe that direct comparison of these effluent limits in the draft permit to those of the previous 1998 permit is applicable under the anti-backsliding provisions. Due to the increased ratio of produced water to hydrocarbons extracted from the Cook Inlet oil fields, which is a natural occurrence, a higher discharge volume and increased loading of pollutants have resulted for some facilities. However some facilities have ceased operation.

401 Certification, p. 9. This analysis is not a proper application of anti-backsliding principles.

An anti-backsliding analysis does not require a direct comparison of effluent limits or the outputs of one model versus another. The first step of the analysis is to determine whether the water body is in attainment (i.e., meets water quality standards). See Draft Interim Guidance on Implementation of Section 402(o) Anti-Backsliding Rules for Water Quality-Based Permits ("Anti-Backsliding Guidance"), p. 6. If the waters are in attainment, like Cook Inlet, backsliding may be permitted if it is

consistent with the State's antidegradation policy. *Id.*, pp. 6-7.

As discussed in Section IV.A., the State has not promulgated an implementation plan for its antidegradation policy. As a result, the State cannot make the determination that relaxed mixing zones comply with Alaska's ADP, and the exception that would allow backsliding does not apply.

Further, in the case of new information, which the State claims the new modeling and monitoring data are, relaxed permit limitations may be allowed only where there is "a net reduction in pollutant loadings that are not the result of another discharger's elimination or substantial reduction of its discharge because of compliance with the CWA or for reasons unrelated to water quality (e.g., shut down of operations)." *Id.*, p.7, n.10. There has been no such showing in this case. The quoted language from the 401 Certification above states that there is a higher discharge volume and increased pollutant loading. The fact that some facilities have ceased operation cannot be part of the anti-backsliding determination. Thus, the relaxed mixing zones and effluent limits in the Permit violate 33 U.S.C. § 1342(o)(1) & (2).

D. Summary.

In summary, the 401 Certification is legally flawed. The State has not promulgated an antidegradation policy implementation plan, and it therefore cannot perform an antidegradation analysis to support reduced effluent limits and significantly larger mixing zones. The State also cannot authorize the significantly larger mixing zones because the modeling inputs for the Permit do not reflect the Cook Inlet environment. Moreover, the anti-backsliding analysis is legally flawed because antidegradation requirements are not met, and new information does not support the backsliding in the Permit. Thus, the 401 Certification does not establish reasonable assurance that the proposed activity, as well as any discharge that may result, is in compliance with the requirements of Section 401 of the Clean Water Act and Alaska Water Quality Standards (18 AAC 70), which violates the requirements of the CWA.

Footnotes

7 Despite the fact that Cook Inlet salmon branding and marketing are increasingly important to support the region's commercial fishing economies, and in light of the broad array of oil and gas industry type contaminants found in fish in EPA's Survey, it is remarkable DEC has made no effort over the past 40 years to sample water, sediment, or aquatic organism tissue in and around the Cook Inlet oil and gas facilities' mixing zones.

8 A public records request was made to DEC to obtain its implementation plan for the ADP. DEC claimed the deliberative process privilege because no implementation plan has been officially adopted.

9 For example, Alaska has numerous waterbodies that meet Tier 3 criteria, but it has no way to implement their designation and protection. There are also even more Tier 2 waterbodies, and DEC has not developed the 4-part antidegradation analysis, or a similar implementation plan, for those waterbodies.

10 There are other exceptions to the anti-backsliding provision of the CWA, but none are asserted here.

Response

Comment ID CI-140.010

V. The Draft NPDES Permit

The Permit is legally flawed in several ways: (1) it allows backsliding in violation of section 402(o) of the CWA; (2) the Reasonable Potential Analysis (“RPA”) is flawed; (3) the projected discharge rate is unsupported; (4) oil and grease and metals discharges are substantially increased under the Permit; and (5) permit conditions have been revised and weakened without justification. Each of these flaws will be explained in turn.

A. The Permit violates the anti-backsliding requirement of the CWA.

The Permit contains less stringent effluent limitations for produced water discharges from all facilities covered by the existing permit. At the Granite Point Production Facility, effluent limitations are relaxed for TAH, total mercury, and WET. At the East Foreland Facility, effluent limitations are relaxed for total copper, total mercury, and WET. At Platform Anna, effluent limitations are relaxed for TAH, TAqH, total copper, total mercury, and WET. At Platform Bruce, effluent limitations are relaxed for WET. At Platform Baker, effluent limitations are relaxed for total zinc and WET. At Platform Dillon, effluent limitations are relaxed for total copper and WET. At TBPF, effluent limitations are relaxed for TAH, TAqH, total copper, and WET. Granite Point Platform does not have specific effluent limitations in the existing permit. Comparison of the proposed limits for Granite Point Platform with the interim limits under the existing permit shows relaxed effluent limitations for WET.¹¹

In addition, the State is proposing significantly larger mixing zones, and most of the TAH/TAqH mixing zones are over one mile, including a mixing zone for Granite Point Platform that was not previously authorized. In addition, the significant increases to WET mixing zones are particularly troubling because of the lack of ambient toxicity data, and the sensitivity of aquatic organisms to the toxic chemicals that are part of the Permit discharges. Further, the Permit does not cap the rate of discharge from each facility, and produced water discharge rates are projected to increase by 92% to 1131% from current actual discharge rates, while the increases are infinite for the facilities that are currently shut in or attaining zero discharge. See Table 2, below

As discussed in Section IV.C., backsliding for permit effluent limitations is not allowed unless an exception applies. In this case, there is no basis for backsliding effluent limitations. The State has not promulgated an implementation plan for its antidegradation policy, and it cannot make the determination that larger mixing zones comply with Alaska’s ADP, so the exception that would allow backsliding does not apply. Further, the State has not shown a net reduction in pollutant loadings to support an exception to anti-backsliding requirements. Therefore, the relaxed mixing zones and effluent limits in the Permit violate 33 U.S.C. § 1342(o)(1) & (2).

Response

Please reference the following in the Response to Comment Document:

Response # 64

Comment ID CI-140.011

B. The RPA is Flawed.

As discussed in Section IV.B., there is no justification for the dilution factors used in the RPA. As such, the RPA cannot justify a finding of no reasonable potential to cause or contribute to the exceedance of water quality standards for arsenic, cadmium, lead, and silver. As a result, effluent limits are required for these toxic metals. Further, these effluent limits are crucial to determining the water quality impacts from oil and gas exploration, development, and production in Cook Inlet.

In addition, EPA relies on the State's analysis to allow mixing zones without question. As discussed in Section IV.B., the modeling inputs are not accurate for Cook Inlet, and therefore the modeling does not support the ridiculously large dilution factors for the RPA calculations or the mixing zones. Thus, DEC's determination that "the discharges authorized by the Proposed Permit are not likely to persist in the environment" cannot be justified, and EPA's reliance on those conclusions is improper. Fact Sheet, p. 33.

Response

Please reference the following in the Response to Comment Document:

Response # 45

Response # 65

Comment ID CI-140.012

C. The projected discharge rate relied upon in the Fact Sheet is unsupported.

Figure 1 shows total annual production of oil, gas, and produced water from Cook Inlet's offshore oil and gas wells using data operators reported to the Alaska Oil and Gas Conservation Commission. These data correlate well with Discharge Monitoring Report ("DMR") data submitted to EPA for 2005, with agreement within 0.3%. See Appendix 2 of the Cook Inletkeeper Report.

As field development proceeds, oil and gas is produced in significant quantities initially, and then declines over a longer period (i.e., the Hubbert curve). As shown in Figure 1 [page 21], produced water generation increases as oil and gas fields age, though this quantity may be affected by the water injection rate into oil and gas reservoirs to increase pressure and production quantities. Additionally, these annual, aggregate numbers are affected by platform start-ups and shut-ins, e.g., the decline in produced water generation in 2003 when Dillon and Baker platforms were shut-in. Note that the quantity of Cook Inlet produced water generation has remained roughly unchanged or decreased since 1991, and was 4.538 million gallons per day ("MGD") (AOGCC data) and 4.553 MGD (DMR data) in 2005.

Table 2 of the Fact Sheet (p. 34) lists the current discharge rate at 5.866 MGD (total of the middle column), which is inconsistent with the actual discharge rate of 4.538-4.553 MGD. In fact, though operators submitted the 5.866 MGD value in their permit applications to EPA prior to the 1999 general discharge permit issuance, the actual discharge rate for Cook Inlet offshore oil and gas operations reported to the AOGCC never has been as high as 5.866 MGD.

Table 2 [page 22] contains the produced water Current Discharge Rate and the Maximum Projected Discharge Rate by facility from the Fact Sheet (p. 34), as well as the Actual Discharge Rate reported in the DMRs for 2005. See Appendix 2 of the Cook Inletkeeper Report. The Maximum Projected Discharge Rate is a key parameter utilized by Parametrix in its mixing zone modeling. DEC did not verify the discharge rate projections. Email from Kenwyn George, DEC, to Lois Epstein, Cook Inletkeeper, April 6, 2006, attached as Exhibit A. These projections ignore the fact that two platforms currently practice zero discharge (Tyonek A, Anna), two platforms are shut-in (Baker, Dillon), and one platform currently sends its produced water onshore (Granite Point). Additionally, as shown in Table 2, for five facilities the Maximum Projected Discharge Rate is an infinite increase over current conditions since the current discharge rate is zero.

As a result, there is no basis for the current and projected flow rates analyzed in the Fact Sheet and mixing zone modeling. The quantity of Cook Inlet produced water generation has remained roughly unchanged or decreased since 1991, and the produced water discharge rate was 4.538 – 4.553 MGD in 2005. The Maximum Projected Discharge rate in the Fact Sheet is 117% higher than the Actual Discharge Rate for 2005. For facilities currently discharging produced water, the Maximum Projected Discharge Rate increases from 92-1131% over the Actual Discharge Rate. These projections are especially egregious in the case of the five facilities that are not currently discharging produced water, but are permitted to do so in the Permit.

Response

Please reference the following in the Response to Comment Document:
Response # 66

Comment ID CI-140.013

D. The discharge of oil and grease and metals under the Permit are substantially increased.

In the Cook Inletkeeper Report, current discharge rates are calculated for oil & grease and metals in produced water discharges using data reported to EPA in DMRs for 2005. Cook Inletkeeper uses produced water monitoring and flow data to calculate the amount of oil and grease discharged, and monitoring, flow, and weighted average calculations (not all facilities monitor and report all metals) to calculate the quantities of metals discharged. Cook Inletkeeper Report, Tables 5-7, pp. 14-15. The report also quantifies the maximum allowable discharges for oil and grease and metals under the Permit using Maximum Projected Discharge Rates for produced water discharges by facility and facility-specific effluent limits. Fact Sheet, Table 2, p. 34, and Appendix B, pp. 69-73. Table 3 [page 23] compares current discharge rates and the allowable discharge rates under the Permit.

As discussed in the previous section, the Maximum Projected Discharge rates far exceed the historic produced water discharge rate and current operating conditions, which include two platforms converting to zero discharge and two shut-in platforms. The unsubstantiated and excessive discharge rates used to develop the draft permit result in enormous increases in allowable discharges of oil and grease and metals. Of particular concern is the increase in three orders of magnitude for mercury and of almost three orders of magnitude for copper.

Response

Please reference the following in the Response to Comment Document:

Response # 36

Response # 37

Response # 38

Comment ID CI-140.014

E. Permit conditions have been revised and weakened without justification.

There are many permit conditions that have been revised and relaxed. There is no discussion about why that has been done, and in most cases there is no justification for the weakening of permit conditions.

First, the effluent limitations and mixing zones for TBPF are based upon the installation of a diffuser. However, the diffuser will not be installed for up to two years. The Permit does not establish any interim limits or mixing zones for TBPF, even though the Fact Sheet claims that the Permit includes a compliance schedule that allows “two years to design, construct, and install the diffuser.” Fact Sheet, p. 37. The provision to install a diffuser within two years is in the Permit, but there is no compliance schedule for the effluent limitations and mixing zones. See Permit, p. 42.12 Without that compliance schedule, effluent limitations may comply with the Permit, but the dispersion in the mixing zone will be substantially less, which will result in greater exceedances of water quality standards within the mixing zone than projected. This problem must be addressed.13

Second, the reduced monitoring frequency allowed when monitoring shows compliance for one year is problematic.14 The Permit duration is five years, yet only one year of demonstrated compliance results in significantly decreased monitoring. That is only 20% of the duration of the Permit. It is possible that quarterly or semiannual monitoring would be allowed for 80% of the Permit term.15 These lax monitoring requirements may encourage sloppy operations resulting in noncompliance except when the minimal monitoring is required. In turn, this will lead to lax enforcement by EPA because it will have very limited information upon which to base enforcement, and there will be a more limited data set for determining whether there is reasonable potential for a pollutant to cause or contribute to the exceedance of water quality standards. To illustrate this, for pollutants monitored monthly, twelve compliant samples will result in only 16 more monitoring requirements for the life of the Permit rather than 48 more monitoring requirements for any noncompliant results. This relaxation in monitoring requirements will result in a weakened permit, and in light of the chronic nature of NPDES noncompliance of Cook Inlet operators, the Permit should increase rather than reduce effluent monitoring requirements.

Third, in the existing permit, the EPA director may require coverage under an individual permit if “effluent limitation guidelines are promulgated for point sources covered by this permit,” or “the point sources covered by this permit no longer: (1) involve the same or substantially similar types of operations, (2) discharge the same types of wastewaters, (3) require the same effluent limitations or operating conditions, or (4) require the same or similar monitoring,” or “in the opinion of the Director, the discharges are more appropriately controlled under an individual permit.” Permit AKG 285000, § I.E.1.d, e, and f, p. 8. These conditions are not in the Permit, which reduces the EPA director’s discretion and weakens the Permit.

Fourth, the Permit would not prohibit non-aqueous-based (i.e., “synthetic”) drilling fluids and associated cuttings. The general permit authorizing discharges for oil and gas exploration, development and production facilities in California (General Permit No. CAG280000) prohibits these discharges, and they should similarly be prohibited in this Permit.

Fifth, the existing permit requires and describes toxicity testing for drilling fluids. See Permit AKG2850000, § III.B.2.e., p. 13. Failing to include similar requirements in the Permit weakens it.

Sixth, section II.H.3 of the Permit should require submittal of inventories by March 1 of the next calendar year to be consistent with section I.F.2.

Seventh, the existing permit requires metals monitoring for well treatment, completion, or workover fluids. See Permit AKG 2850000, § III.G.4., p. 28. Without this provision, the Permit is weakened.

Eighth, the provisions for 24-hour notice of noncompliance reporting in the existing permit requires the reporting of unanticipated bypasses or upsets that “result in or contribute to an exceedance of any effluent limitation” to be reported. Permit AKG 2850000, § IV.G.1.b and c., p. 32. The Permit would only require the reporting if there is an actual exceedance. The Permit is weakened with this reduced requirement for reporting.

Ninth, the Permit should contain the “Removed Substances” provision in the existing permit (Section V.F.). Without it, the Permit is less stringent.

Tenth, the reopener clause in the existing permit (VI.L) must be maintained in the Permit. A reopener clause is required when there are effluent limits for toxic constituents in the permit. 40 CFR § 122.44(b). There are effluent limits for toxic constituents in the Permit, which requires a reopener clause.

Eleventh, there is no justification for eliminating the definitions of “chronic toxicity unit,” “coastal,” “development facilities,” “LC50,” “monthly average,” “no observed effect concentration,” “produced sands,” “produced water,” “production facilities,” “24-hour composite sample,” “waterflooding discharges,” “weekly average,” “well completion fluids,” and “workover fluids.”

All of these revisions weaken the Permit, and make it less enforceable. Cook Inlet oil and gas facilities discharge highly toxic wastes that can have tremendous impacts on the surrounding environment, and the Permit as written fails to ensure compliance with CWA requirements.

Footnotes

12 The 2-year compliance schedule and increased mixing zone (5,791 m) is discussed in the Biological Evaluation and Essential Fish Habitat Assessment, but is nowhere discussed in the Fact Sheet or the 401 Certification, and the Permit does not contain a detailed compliance schedule. The fact that this essential permit condition is not properly discussed and analyzed in the documents informing the public of the requirements for the Permit means that the Permit does not provide proper notice on this issue.

13 In addition, the Fact Sheet is inconsistent in its description of the diffuser. It is described as both 80 and 100 meters in length. See Fact Sheet, p. 37. This inconsistency must be corrected.

14 The monitoring frequency section states that monitoring is required for total lead. Total lead has been removed based on the RPA. As discussed previously, the RPA is flawed, but if EPA ultimately approves the cessation of total lead monitoring, the Permit should accurately reflect the Permit conditions.

15 The description of reduced monitoring in the Fact Sheet is mischaracterized on pages 41 and 44. There, the Fact Sheet describes the reduced monitoring frequency for WET testing as once per year rather than every six months, and states that once WET testing results show compliance for twelve months, a reduced monitoring frequency is allowed. These errors should be corrected.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Response # 67

Response # 68

Response # 69

Response # 70

Response # 71

Response # 72

Response # 73

Response # 74

Response # 75

Response # 76

Comment ID CI-140.015

F. Various permit conditions should be strengthened.

Some of the Permit conditions are carried over from the existing permit but should be revised to strengthen the Permit. First, because of the lack of adequate data regarding the discharges from these facilities and the history of noncompliance, weekly discharge monitoring should be required rather than monthly monitoring.

Second, for deck drainage discharges, WET testing is required only once during the first year of the Permit. WET testing should be required every year, especially since there is often a delay in reissuing the permit, which results in more than a four-year gap in WET monitoring data for this waste stream.

Third, the Fact Sheet explains that oil and grease limits were determined to be the surrogate limit for the pollutants discharged in produced water. See Fact Sheet, p.27. It then discusses the history of exceedances of oil and grease limits and the new produced water sheen monitoring requirement as a method to promote better compliance. Id. While the produced water sheen monitoring requirement may provide better information about oil and grease discharges, it will not achieve better compliance. As noted in the Fact Sheet, there are chronic violations of the oil and grease effluent limitation by all facilities. A better monitoring method will not cure the chronic violations, and EPA must consider those violations in deciding whether to reissue the permit. As discussed in Section III, zero discharge is attainable and economically achievable, while chronic violations of oil and grease limits are likely to continue under the Permit despite improved sheen monitoring.

Fourth, no actual monitoring is required at the edge of the mixing zones. All effluent limitations and mixing zones are determined by monitoring rather than by actual data. At least annually during the Permit term, monitoring should be required at the edges of the mixing zones to determine actual compliance.

Fifth, sanitary waste is monitored only for BOD, TSS, and total residual chlorine. Total residual chlorine is considered a surrogate for fecal coliform. Because fecal coliform may contain pathogens that could affect marine mammals, monitoring of sanitary waste for fecal coliform should be required at least quarterly.

Sixth, the stormwater discharge provisions should require that the Stormwater Pollution Prevention Plan (“SWPPP”) be retained onsite and available to agency personnel during inspections, as well as to staff. In addition, an objective way to determine the effectiveness of the SWPPP should be provided, such as benchmark limits for TSS, oil and grease, and other relevant pollutant parameters.

Seventh, in section III.A.1.a., the vertebrate test species should include inland silverside as in the existing permit. In addition, a survival, growth, and fecundity test should be performed on the invertebrate species.¹⁶

Footnotes

¹⁶ To our knowledge, neither DEC nor EPA has conducted platform or facility inspections that include unannounced compliance sampling and testing for production waste effluents. As a result, the Permit’s monitoring provisions must be strengthened to ensure the data necessary to ensure compliance with the CWA.

Response

Please reference the following in the Response to Comment Document:

Response # 133

Response # 6

Response # 77

Response # 78

Response # 79

Response # 80

Response # 81

Response # 82

Comment ID CI-140.016

VI. The Environmental Assessment and Finding of No Significant Impact

The National Environmental Policy Act (“NEPA”) requires the analysis of major federal actions to determine whether the project may have significant environmental impacts, and to evaluate alternatives and mitigation measures that may avoid or lessen those impacts. If the project may have a significant environmental impact, an environmental impact statement (“EIS”) is required.

In this case, the major federal action is EPA’s reissuance of the Permit for new sources. Because EPA has determined that there will be no significant impact from the conditions in the Permit, an Environmental Assessment (“EA”) and Finding of No Significant Impact (“FONSI”) were prepared. However, the EA is inadequate, and therefore the FONSI is not supported.¹⁷

EPA is required to prepare an EA to determine whether the environmental impact of the Permit is significant enough to warrant an EIS. 40 CFR §§ 1501.3, 1508.9. If the action will significantly affect the environment, an EIS must be prepared, while if the project will have only an insignificant effect, EPA issues a FONSI. 40 CFR §§ 1501.3, 1501.4. “Significantly,” as used in NEPA, requires considerations of both “context” and intensity.” 40 CFR § 1508.27. These procedural mechanisms are required so that EPA seriously evaluates the environmental consequences of the Permit, which would constitute a “hard look” at the project before its approval. See *Kern v. United States Bureau of Land Mgmt.*, 284 F.3d 1062, 1066 (9th Cir. 2002). EPA cannot avoid preparing an EIS by making conclusory assertions that the project will not have a significant impact on the environment. See *Ocean Advocates v. United States Army Corps of Eng’rs*, 402 F.3d 846, 864 (9th Cir. 2005).

The analysis of environmental consequences in the EA is wholly inadequate. In each issue area discussed in the EA, and for each alternative, the environmental consequences section of the EA contains conclusory statements, such as “long-term minor adverse effects would be expected,” “no effects would be expected,” and “long-term minor adverse and beneficial effects could occur,” which are then followed by a brief discussion that is generally no longer than two paragraphs. Those discussions contain conclusory statements about various impacts or the lack of impacts for that issue, which in some cases refer to documents in the “References” section of the EA.

For example, the discussion of impacts for the proposed action (Alternative 1) in the areas of “marine water quality” and “threatened and endangered species” state that the Cook Inlet environment is “uncontaminated,” and that water quality in Cook Inlet would not be “measurabl[y] degrad[ed]” from oil and gas lease sales, and a citation to the final EIS by the Minerals Management Service for Cook Inlet Planning Area, Oil and Gas Lease Sales 191 and 199, prepared in 2003, is provided. EA, pp. 4-3, 4-5. Those conclusions were made in the 2003 EIS for potential lease sales in Cook Inlet. The conclusions regarding the disposal of property in federal oil and gas leases are not transferable to the context of an NPDES permit that authorizes millions of gallons of discharges to Cook Inlet from existing and new oil and gas facilities. This is because the analysis of impacts for the lease of property cannot speculate about the impacts of the toxic pollutants to be discharged, except in a very general way. In fact, the Minerals Management Service has historically refused to conduct environmental studies north of Kalgin Island. This lack of analysis is especially concerning when there are statements in the “Affected Environment” section such as: “Generally, the lower Cook Inlet intertidal and subtidal habitats are considered to be very environmentally sensitive because of their

concentrations of lower trophic level organisms and vulnerability to environmental degradation from oil slicks.” EA, p. 3-32.

Further, the analyses in the EA nowhere discuss the “context” and “intensity” of the Permit in order to determine the significance of the impacts. Are “minor adverse effects” significant? There is no way to know from the conclusory analysis provided in the EA, which in many cases does not even apply to the Permit. It is also impossible for the public and cooperating agencies to comment on the EA when the underlying analyses for the conclusions are not provided. Thus, this cursory analysis of environmental consequences is illegal under NEPA.¹⁸

In addition, the cumulative impacts analysis is inadequate. The EA considers only past and current lease sale activities, oil and gas exploration and production in the area, and recreational and commercial uses of Cook Inlet. Even in that discussion, the conclusory statement that there will be no cumulative impact from the millions of gallons of produced water discharged from existing facilities, even though there is no limit to that volume, is astonishing. See EA, p. 4-14. As discussed in Section IV.B., the modeling performed to set mixing zone sizes and dilution rates is based on invalid assumptions, and the 1,000:1 dilution rate cited in the EA cannot be supported. See *Id.* There is also no discussion of the cumulative impacts of development of the Chuitna coal mine on the west side of Cook Inlet, which is in the process of being permitted by the State; expansion of facilities at Agrium, including the likely development of a 350 mega-watt power plant; proposed development of the Knik Arm bridge, which has been partially funded by the Alaska Legislature; development of port facilities at Port MacKenzie; and expansion of the Port of Anchorage. All of these projects are foreseeable and will have direct impacts on the Cook Inlet resources discussed in the EA.

Finally, the mitigation measures are not adequate. Generally, mitigation measures serve two functions under NEPA: (1) mitigating a significant impact to less than significant; and (2) mitigating an unavoidable significant impact. An EIS must “[i]nclude appropriate mitigation measures not already included in the proposed action or alternatives.” 40 CFR § 1502.14(f). The “mitigation” provided in the EA are all measures that are conditions of the Permit itself. Thus, the characterization of Permit conditions as mitigation in the EA is inappropriate and misleading.

Footnotes

¹⁷ The commenters note that Alternative 2 in the EA, which would require zero discharge for existing facilities, is the environmentally superior alternative, and should be the “proposed action.”

¹⁸ The analyses of “cultural, historic, and archaeological resources,” and “environmental justice” are also inadequate. While the discussions are longer, they are merely explanations of information received by EPA from native villages about traditional ecological knowledge in the areas of cultural resources and subsistence.

Response

EPA does not avoid preparing an EIS by making conclusory statements, the statements are a reflection of the findings of the EA. Ultimately, mixing zones are allowed under the authority extended to the State of Alaska (ADEC). Discharges from the facility will meet water quality standards at the edge of the mixing zones and discharges meeting water quality standards are protective of aquatic species and consistent with the Clean Water Act. The reissued permit would allow produced water discharges to continue from existing facilities but would substantially restrict discharges from new exploration and production facilities, including the prohibiting the discharge of drilling fluids, drill cuttings (production facilities only), and produced water.

EPA evaluated tissue data, water quality data, and sediment data collected in Cook Inlet and found no evidence that the existing discharges have had an adverse affect on the environment of Cook Inlet. EPA consulted with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service regarding threatened, endangered and sensitive species and received concurrence that the action would be not likely to adversely affect the species under consideration. The fact that the discussions are brief in no way negates the fact that EPA has taken a hard look at this action and has determined that a Finding of No Significant Impact is appropriate.

The commenter misses the point in reiterating the quotations from the MMS EIS for the Cook Inlet lease sales. The EA clearly notes that the MMS EIS found that the lease sales would not result in a degradation of water quality. The beginning of the paragraph refers the reader to the previous section (Biological Resources) indicating that the effects would be the same. The discussion indeed states that there could be long-term minor adverse effects.

In terms of context and intensity, the permit clearly applies to discharges that constitute a minor volume of water in the context of the entire volume of Cook Inlet and the glacially fed streams and rivers that feed it. Discharge limitations are established to meet applicable water quality standards consistent with requirements established under the Clean Water Act. The relatively small volume of the discharges combined with the compliance with water quality standards results in the intensity of the permit being insignificant within Cook Inlet.

The discussion of cumulative effects has been revised to clarify that a number of activities have been considered but determined not reasonably foreseeable in terms of NEPA. The Chuitna Coal Project is under environmental review at this point, however, while the permit and NEPA process was under development, there had been no formal submittal to EPA, ADEC, or ADNOR therefore it was not considered reasonably foreseeable. EPA is unaware of any formal proposals for an expansion at the Agrium facility and the funding deficiencies for the Knik Arm Bridge render it as speculative and therefore these projects are also not considered reasonably foreseeable. EPA has included the Port Mackenzie expansion in the final version of the EA.

The ambient water quality and baseline studies are being included as permit conditions necessary to support future permitting actions, rather than mitigation measures. As the commenter noted, mitigation measures are applicable to significant impacts; since none of the impacts in the EA were determined to be significant, it is not appropriate to include mitigation measures.

Comment ID CI-140.017

VII. Essential Fish Habitat Assessment

Essential Fish Habitat (“EFH”) is defined by the Magnuson-Stevens Act (“Act”) as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity.” 50 CFR § 600.10. The Act outlines a process for NMFS to consult on activities proposed by federal agencies that may adversely impact areas designated as EFH. Specifically, agencies are required to consult with NMFS on any action authorized, funded, or undertaken that may adversely impact EFH. See 50 CFR § 600.920. An EFH assessment must include 4 sections: (1) a description of the action; (2) an analysis of the potential adverse effects of the action on EFH and the managed species; (3) the Federal agency’s conclusions regarding the effects of the action on EFH; and (4) proposed mitigation, if applicable. See 50 CFR § 600.920 (3)(e).

The Essential Fish Habitat Assessment for the Cook Inlet NPDES Permit (“Assessment”) addresses impacts to EFH in Cook Inlet from EPA reissuance of the Permit. The Assessment identifies 3 fisheries resources in the Permit area: groundfish; scallop; and salmon. See Assessment § 3.0, p. 25. Pink, Chum, Sockeye, Chinook and Coho salmon, as well as Walleyed Pollock, Pacific cod, Arrowtooth flounder, Rock sole, Alaska plaice, Rex sole, Dover sole, Flathead sole, Sablefish, Shortraker/rougheye rockfish, Northern rockfish, Thornyhead rockfish, Yelloweye rockfish, Dusty rockfish, Sculpins, Skates, Squid and Weathervane Scallop have an EFH life stage pertaining to spawning, breeding, feeding or growth to maturity in the production area. See *Id.* EPA, however, has no monitoring data to support the analysis of the adverse effects of the discharges on the EFH for these fisheries in Cook Inlet. Without a proper analysis of those effects, EPA has not met the second requirement for an EFH assessment.

In the Assessment, EPA admits that “few ambient data associated with oil and gas discharges in Cook Inlet currently exist.” Assessment §2.3.3.8, p. 24. EPA’s attempts to collect data in the current permit failed. “The expired permit required operators of new facilities located within 4,000 meters of coastal marshes to conduct baseline monitoring. However, no new facilities were located within 4,000 meters of coastal marshes, so no baseline monitoring was conducted.” Assessment § 2.3.3.7, p. 24. Even the ambient water quality data that EPA has collected are so far away from the Permit area that they are meaningless: “The only available sediment data were collected in the far southern portions of Cook Inlet, well over 100 miles from the existing large-volume produced water discharges.” Assessment § 2.3.3.8, p. 24. As a result, EPA has insufficient information to determine impacts from the permit discharges to EFH.

Due to this lack of information, the EPA relies on data models to predict the potential effects of oil and gas discharges on the environment and the Cook Inlet EFH. “Because of the data limitations, EPA has historically relied on tools like dispersion modeling to analyze the potential effects of discharges for permitting decisionmaking.” Assessment § 2.3.3.8, p. 24. Without actual data on the ambient conditions in Cook Inlet, as well as on the increased discharges into Cook Inlet under the Permit, the EPA cannot adequately assess the potential adverse effects of the Permit reissuance on EFH.

One positive requirement in the permit is ambient monitoring. See Assessment § 2.3.3.8, p. 24. This and other monitoring requirements in the Permit are what the Assessment claims as mitigation measures. See Assessment § 5.0, pp. 41-42. However, this mitigation is illusory because decreased

monitoring will be allowed after monitoring shows compliance for only one year of the five-year permit term. Further, the premise that monitoring discharges reduces the risk of adverse effects is wrong. It merely provides data about whether those effects are occurring, and EPA should have required that monitoring data in order to have a basis for determining that EFH would not be impacted.

Further, the conclusions reached in the Assessment have no basis. Although Tetra Tech spends more than 40 pages summarizing the actions and resources within the Permit area, the Assessment provides only a half-page paragraph of conclusions. The conclusions are made as bald statements that have no support in the document.

For example, in the conclusion, the Assessment states that the overall effects on EFH in the mixing zones “would be inconsequential because of the small area directly affected,” and the “overall adverse effects on EFH in Cook Inlet and vicinity would be low and primarily short-term.” Assessment, § 6.0, p. 42. However, earlier in the Assessment, it is stated that “some sublethal effects on EFH in the mixing zone, as well as indirect effect on EFH species from adverse effects on epibenthic and benthic prey species in the mixing zone would occur.” Assessment § 4.3.3, p. 37.

In addition, EPA relied on a dispersion model to conclude that mixing zones would not affect EFH organisms. See Assessment § 2.3.2.1, p. 14. There is no hard data to back up this claim. In fact, the current dispersion model resulted in proposed significantly larger mixing zones than in the existing permit despite the significant projected increase in discharge rates in the Fact Sheet. See *Id.* The Permit does not even contain a limit on the level of discharges permitted. Nevertheless, the Assessment attempts to assure the public that discharges under the Permit “would have slight adverse effects,” and “would be very limited in distribution and would be negligible.” Assessment § 6.0, p. 42. The Assessment does not provide adequate information about how discharges under the existing permit or the Permit affect Cook Inlet’s EFH because there is no actual data, only modeling, and that modeling was not performed according to EPA guidance. Until EPA has the data to support that there will be no adverse impacts to EFH, the conclusions in the Assessment are wrong. This Assessment is inadequate to support a finding that discharges under the Permit will not adversely affect EFH.

Response

An essential fish habitat (EFH) assessment is a specific communication directed to the National Marine Fisheries Service (NMFS) as required under the Magnuson-Stevens Act. While EPA appreciates your comments on the EFH assessment, we will defer to the comments from NMFS on the adequacy of the document and the validity of the conclusions.

Comment ID CI-140.018

VIII. The Biological Evaluation (BE)

The federal Endangered Species Act (“ESA”) requires EPA to ensure that “any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an “agency action”) is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species... “ 16 USC § 1536 (a)(2). Because the Cook Inlet beluga whale stock has been listed as “depleted” under the Marine Mammal Protection Act, EPA correctly included the Cook Inlet beluga whale in its BE. While the BE references numerous species potentially affected by operations to be authorized by the Permit, these comments will focus on the Cook Inlet beluga whale. However, the superficial and unscientific review applied to the beluga whale is also apparent in EPA’s review of the other species discussed in the BE, and as a result, general comments about missing information, unsupported conclusions and misstatements should be considered as for all species discussed in the BE.

At the most basic level, the BE simply regurgitates faulty information provided in the Fact Sheet and the Permit, and summarily concludes, not surprisingly, that no species will experience adverse effects. Significantly, the BE finds that there would be significant indirect effects to endangered species, but finds that the issuance of the Permit is “not likely to adversely affect” any species analyzed. BE, p. 5-1. In addition, as acknowledged in the Assessment, “little ambient data associated with oil and gas discharges in Cook Inlet presently exists,” which makes an adequate BE impossible. BE, p. 2-22.19

Importantly, EPA concedes the BE does not consider “[p]otential effects arising from violations of permit conditions...” BE, p. 5-1. Yet as discussed in Section II.A.1., the Cook Inlet oil and gas industry has operated in a chronic state of noncompliance for the past 15 years. As a result, EPA must consider violations of permit conditions for WET and other parameters before it can conclude no adverse effects.

The BE also perpetuates the myth that the larger mixing zones authorized for the Permit are a result of more conservative modeling. See BE, p. 2-13. Yet, as the LaLiberte Report shows, it is not so much the modeling that increased the size of the mixing zones, but the increase in pollution volume and mass loadings under the Permit. See LaLiberte Report, pp. 1-3, 24-25, 31-32, 33, 34. As a result, EPA must re-evaluate the BE for all species, and determine the effects of increased PAH, heavy metals, and other constituent loadings on species and their habitats.

Furthermore, EPA makes the unsupported statement that anthropogenic sources of pollution are greater in Cook Inlet streams and rivers than those directly discharged to Cook Inlet. See BE, p. 4-2. We are unaware of any attempts to quantify the relative inputs of human-induced pollution in streams/rivers vs. direct discharge to Cook Inlet, and EPA must assess the volumes and contents of nonpoint source run-off from Anchorage, sewage discharges that operate under Clean Water Act section 301(h) waivers, atmospheric deposition from aircraft exhaust, among other sources, before making such unfounded claims.

Additionally, EPA relies on a 20 year-old study (i.e., the “Cook Inlet Discharge Monitoring Study”) to make sweeping findings that oil and gas exploratory and production wastes will cause no adverse effects to the identified species. Reliance on such antiquated information provides no confidence that an objective, valid BE was performed.

The BE does, however, note that oil spills are an “issue of major concern,” yet it simply reviews the history of spills in Cook Inlet without analyzing the potential effects on designated species of aging pipelines, resultant chronic leaks and increased spills, etc. BE, p. 4-6. Also, the BE makes no effort to address the pollutants identified in salmon and other species in EPA’s own 2003 Cook Inlet Chemical Contaminants study.

On the beluga whale, EPA continues its broad brush efforts to find no adverse effects from the pending Permit, and once again, relies on unsupported statements to function as fact. For example, EPA contends that beluga whales are distributed more widely throughout the Inlet in the winter months. While this had been the conventional wisdom for many years, satellite tagging work by NMFS has shown belugas appear to inhabit the Upper Inlet all year. Furthermore, the BE baldly claims belugas will be unaffected by mixing zone pollution because of the “limited amount of time within spent within [sic] these areas.” BE, p. 5-13. In light of the fact that the TBPF mixing zone alone is more than a mile long, and considering the fact the BE provides no support whatsoever for this conclusion, EPA must reconsider whether extended durations in areas of acute and chronic pollution mixing will adversely affect the beluga.

As for the “cumulative effects” on belugas, the BE is once again cursory and illinformed. While it concedes “oil and gas development is the main agent of industrialrelated change in the Cook Inlet area,” it makes absolutely no effort to seriously analyze industry impacts on the whale, nor in conjunction with the other pollution inputs in the region. BE, p. 5-14.

Last, EPA stated in 1995 that “The Beluga whales, which frequent the upper Inlet, may be adversely affected by pollutants in produced water. This species may be affected either directly (through exposure) or indirectly (through ingestion and bioaccumulation) (Avanti 1992).”²⁰ EPA has provided no evidence to counter this statement since. One chemical discharged by Cook Inlet operations in particular however, copper, has been found in high concentrations in Cook Inlet beluga whales²¹ – the toxicologic implications of high copper levels currently are unknown.

In short, the BE is a paper exercise that adds nothing to the discussion of whether increased pollution from Cook Inlet oil and gas facilities will affect belugas and other endangered species. As a result, it fails to meet the basic standards of the ESA, and cannot support issuance of the Permit.

Footnotes

19 On page 2-14 of the BE, the proposed mixing zone for TBPF is inaccurately portrayed; it should be 2,418 meters rather than 1,418 meters. However, as noted in Section IV.B., and discussed in the BE, the mixing zone will be 5,791 meters for the first two years of the Permit term.

20 Cook Inlet (Reissuance) Fact Sheet, September 7, 1995, p. 38.

21 Concentrations of polychlorinated biphenyls (PCB’s), chlorinated pesticides, and heavy metals and other elements in tissues of beluga, *Delphinapterus leucas*, from Cook Inlet, Alaska, Stephen A. Wise, Marine Fisheries Review, June 22, 2000.

Response

A Biological Evaluation (BE) is a specialized document written for direct communication with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service (Services). While EPA appreciates your comments on the BE, we will defer to the comments from the Services on the adequacy of the document and the validity of its conclusions.

Comment ID CI-140.019

Conclusion

The Permit is factually and legally flawed for the myriad reasons discussed in this letter. Because of these flaws, the Permit cannot be issued. In addition, EPA must make an informed policy decision about whether the facilities covered by the Permit should even be allowed to discharge produced water and drilling fluids and cuttings.

As detailed in these comments, zero discharge should be required, and it is economically and technically feasible to do so. On May 19, 2006, CIRCAC, passed the following resolution: “Be it resolved that Cook Inlet RCAC does hereby oppose the reissuance of a Cook Inlet General Oil and Gas NPDES permit that would allow more pollution to be discharged than is currently permitted and that the Cook Inlet RCAC supports the goal of zero discharge.”

CIRCAC is the nonprofit organization formed under the Oil Pollution Act of 1990, and its mission “is to represent the citizens of Cook Inlet in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet.” While we believe zero discharge for exploratory, development, and production wastes must be implemented immediately, the CIRCAC position highlights the need for EPA and DEC to carefully review the Permit, and to issue a final Permit that will comply with the CWA.

Thank you for the opportunity to comment on this very important permit. If you have any questions, please do not hesitate to call me at (907) 276-4244, ext. 113.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Joel Cooper

Organization: N/A

Comment ID CI-490.001

Hello, my name is Joel Cooper, I'm from Homer. And I guess I'll get the easy part of the comment out of the way and just say that, you know, I think this permit should not grant discharges in the Inlet, I think you should be writing it such that there would be zero discharge. If the technology is there, then that's what should be done. And if it's the same as it was on the last permit, where the reason they wouldn't need to use best available technology is because it wouldn't be profitable to extract the oil, then that's something that we got to look at in terms of who is making what profit.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-490.002

And then the overall picture, as many have said earlier, why are we going after more oil and gas in the situation that the globe is in right now? We should be looking at transition out of an oil and gas economy. So you've expanded this exploration area, and it should be going the other way. We should be sitting here talking about, you know, how we're developing transit systems, how we're developing tidal energy or other alternative energy sources to meet our electricity and transportation needs.

And I think ultimately the problem lies in our economic system and how it is structuring things, and the way we're going to start solving these problems is when everybody in the oil and gas industry, the gas stations, the car industries start sitting down and talking about how we're going to transition out of this oil and gas economy. And that's what the whole country is in an oil and gas economy.

And you guys are a part of it, like they said, Environmental Protection Agency. If the ability to meet zero discharge is there, that's what you guys should be writing, zero discharge. And I don't know how you came to the conclusion that it's not worth being zero discharge, but from what I've glanced at, it's not the direction you're going in and that's unfortunate.

And I guess it's unfortunate, I think, that the oil and gas industry doesn't want to work to resolve these energy problems. They are going -- we're going to have to transition out for their kids and everybody else, we're going to have to transition out of this oil and gas economy, and we've got to work together, we can't just say you greenies just don't know what you're talking about, you drive a car. It goes beyond that. We've got to look at the inequality that this oil and gas economy is creating

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-490.003

I read in the one of the Oil and Gas Reporters a couple years ago how they point out that the oil and gas industry is in a league of their own, that they are well above the average salary of anybody in Alaska, they are approaching a hundred thousand a year. And how can they claim that they can't afford zero -- meeting zero discharge and not afford the best available technology if they are in a league of their own and they are well above the Alaska average. Again, I encourage you to write the permit for zero discharge, thanks.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Timothy S. Cowan

Organization: N/A

Comment ID CI-260.001

As a production Foreman of the Cook Inlet with 25+ years of experience I have seen many changes to the Compliance management within the Oil and Gas Industry. Compliance has been and is currently our #1 concern along with safety. There has been many man hours, millions of dollars and a lot of grey hairs to comply with regulations from the EPA, OSHA, and ADEC to name few. A lot of the regulations have made sense and some have made no sense whatever. Currently the Cook Inlet NDPES Permit is up for approval with the EPA and ADEC. There are a number of issues I would like to address with the New Permit up for renewal.

1) The Permit is confusing and unclear, we have many hours invested understanding the permit now in place and it will be very difficult to comply with and will require retraining responsible individuals. Cook Inlet Oil has been in a decline for some time now and this is just one more thing that could make the business economically unfeasible to operate. Please leave the Permit as it is currently, if there are specific areas that need to be addressed lets address them one at a time.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Comment ID CI-260.002

Some of the sampling currently conducted does not make sense; we are using animals that don't live in Cook Inlet to conduct WET sampling. I have many times tried to get produced water to a lab only to find out the animals have died before the samples even arrive.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Response # 215

Comment ID CI-260.003

The Cook Inlet is clean and safe and there have been many studies done to prove it, changing the buffer distances is unwarranted and should not be done.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-260.004

Requiring mixing equipment into a body of water that moves at 7 knots and is already extremely turbulent makes absolutely no sense and should not happen.

Response

Thank you for your comment. Please see the ADEC responses addressing mixing zones.

In addition, please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-260.005

The last thing myself and peers would want is to harm our playground, we all love and enjoy the wonders Cook Inlet and surrounding areas have to offer. This permit and its contents have the ability to greatly affect our lives. We work hard 24/7 to comply with current regulations.

Response

Thank you for your comment

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-120.001

Section 403 applies only to those facilities discharging to the territorial sea and the waters of the contiguous zone. It does not apply to any of the existing facilities covered by the Proposed Permit, which all are located in and discharge to coastal (inland) waters. As a result, significant portions of the Evaluation, such as the description of produced water discharge rates from existing facilities (p. 20), the discussion of mixing zones proposed for existing facilities in Section 9 (Marine Water Quality), and the estimated volumes of drilling fluids, drill cuttings, and produced water that will be discharged from existing facilities, discussed under Criterion 1 (p. 111), are not relevant to the decision EPA must make under section 403.

Response

The commenter is correct, upper Cook Inlet in the vicinity of the existing facilities is considered inland waters for permitting purposes. The ODCE has been revised to reflect the fact that it does not apply to existing facilities and the existing discharges removed from consideration. Estimated volumes of some existing discharges have been retained to describe the discharges occurring within the federal waters and territorial seas.

In addition, please reference the following in the Response to Comment Document:

Response # 109

Comment ID CI-120.002

It is readily apparent from the analysis in the Evaluation and its discussion of the criteria (pp. 111-116) that discharges under the Proposed Permit would not cause unreasonable degradation. The Evaluation provides ample support for EPA's determination to that effect. As explained below, the Evaluation also would support that same determination if EPA revises the Proposed Permit in the ways requested by AOGA'S comments on that document.

Response

Thank you for your comment. The final ODCE has been revised to reflect the contents of the final permit.

Comment ID CI-120.003

There are a number of errors or misstatements in the Evaluation, but as many of them relate to the existing facilities, they are not particularly relevant to the purpose of the Evaluation or EPA's ultimate conclusions regarding the impact of discharges subject to section 403. For example, the discharge rates for existing facilities in Table 1 on page 20 are inconsistent with the Fact Sheet, except for the Tyonek facility. The diffuser proposed for the Trading Bay Production Facility outfall will not reduce pollutant concentrations (see p. 111), but rather, change the rate and pattern of dilution. Also, it is untrue that the Trading Bay outfall is in shallow water or close to sensitive areas (p. 108). It discharges in waters 10 meters deep, and extends more than two miles from the shore. These are representative of the types of errors and oversights in the Evaluation's description of the existing discharges and their impacts, but since the existing discharges are irrelevant to the section 403 analysis, we will not attempt to identify and correct each one.

Response

Thank you for your comment. EPA has addressed errors in the final permit and supporting documents to the extent they have been identified. The ODCE has been clarified to reflect that the evaluation only applies to Territorial Seas and Federal Waters, which excludes all existing discharges from consideration. The table in question has been removed from the document and specific details on the outfalls deleted.

Comment ID CI-120.004

There also is a comment made at several points in the Evaluation (e.g., p. 102) to the effect that the new visible sheen monitoring requirement that the Proposed Permit would impose on produced water discharges will promote better compliance with the oil and grease limit applicable to those discharges. As explained in AOGA's comments on the Proposed Permit, observation of a visible sheen does not, in fact correlate well to compliance with the oil and grease limit. Moreover, it usually would not be possible to conduct the visible sheen monitoring method proposed by EPA under the prevailing physical conditions in Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 133

Comment ID CI-120.005

There also are a number of places in the Evaluation that refer to mixing zones allowed under the ocean discharge criteria (e.g., p. 108). The Evaluation indicates that mixing zones in areas subject to the ocean discharge criteria cannot be larger than 100 meters. This is a misreading of 40 CFR § 125.121(c). The default mixing zone under that section is the larger of 100 meters or the initial zone of dilution (usually less than 100 meters), so the standard mixing zone under this definition commonly is 100 meters. However, the regulation also gives EPA the option of adopting a more restrictive mixing zone, "or another definition of the mixing zone" if it is more appropriate. This wording would allow that "other definition" to be more than 100 meters. Accordingly, EPA is incorrect in stating that the ocean discharge criteria do not allow a mixing zone larger than 100 meters in areas subject to those criteria. The conditions in Cook Inlet warrant mixing zones larger than 100 meters, since mixing occurs quite quickly, even though that mixing may occur over more than 100 meters due to the rapid tidal flux.

Response

The discussion of mixing zones in the ODCE has been clarified to reflect the language in 40 CFR § 125.121(c).

Comment ID CI-120.006

The Proposed Permit would expand the existing buffer around "sensitive areas" from 1000 to 4000 meters. As AOGA has pointed out in its comments on the Proposed Permit, this expansion would have the effect of prohibiting a number of existing discharges. It also would make exploration infeasible in significant areas of Cook Inlet. EPA apparently was unaware of both of these sets of impacts.

To the extent the size of the buffer area is relevant to the section 403 evaluation, none of the documents EPA has produced in support of the Proposed Permit, including the Evaluation, contain any factual support or reasonable justification for expanding the buffer area. In the discussion of Criterion 5, special aquatic sites (p. 114), the Evaluation states: "Due to the relative low toxicity of waste discharges from platforms in Cook Inlet and the rapid dispersion of pollutants in these waste discharges, no adverse effects are predicted." There is no indication anywhere in the Evaluation that, given the nature of the discharges, a 1000 meter buffer is not sufficient to achieve this result.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-120.007

Similarly, in the discussion of Criterion 7, impacts on recreational and commercial fishing and subsistence (p. 115), the Evaluation acknowledges that impacts will be insignificant, due to the mobility of harvested species, the potential effects of discharges on water quality, and the rapid dilution of discharges in the strong tidal flux of Cook Inlet. This statement also should have included the observation, found many other places in the permitting documents, that biological resources of interest to subsistence users are unlikely to be found in waters near the permitted discharges.

Finally, the factors identified under Criterion 2, potential transport of pollutants (p. 112) support AOGA's view that expansion of the buffer area is unnecessary.

Response

Inclusion of additional discussion was unnecessary in arriving at the determination presented in the ODCE.

In addition, please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-120.008

WET Limits On Treated Seawater

The Evaluation states that the state water quality standards and the ocean discharge criteria justify imposing toxicity limits on sea water and fresh water to which treatment chemicals have been added (p. 105). This is a reference to the WET limits that would be imposed by the Proposed Permit. The discussion in the rest of the document does not support this assertion.

First, the discharges in question are relatively insignificant. As the Evaluation notes (p. 24), these discharges are "low in volume or intermittent and contain minimal concentrations of contaminants." Similarly, in discussing Criterion 2, the Evaluation states: "In general, the amounts of additives in the other discharges are expected to be relatively small (from 4 to 400 or 800 liters per month) and diluted with sea water several hundred to several thousand times before being discharged into the receiving waters."

The last time EPA renewed the Cook Inlet NPDES permit, the agency explained that these discharges did not warrant limitations because they are - as EPA still recognizes - relatively insignificant. In its response to comments on the existing permit, EPA stated: "EPA agrees the discharge volumes for these waste streams are minimal, and do not present a significant risk to the environment. . . . [W]e have no current plans to develop additional monitoring requirements or effluent limitations for [miscellaneous] waste streams."

Response

Please reference the following in the Response to Comment Document:

Response # 187

Response # 8

Comment ID CI-120.009

Despite repeated recognition that these are insignificant waste streams, EPA has nevertheless proposed imposing not only technology-based limits on treated seawater discharges, but also WET limits. The inappropriateness and infeasibility of imposing WET limits and monitoring requirements on treated seawater discharges is discussed at length in AOGA's comments on the Proposed Permit, including an explanation of why the limitation is not needed to assure compliance with Alaska's water quality standards. Those comments also effectively explain why the Evaluation's conclusions regarding the toxicity of these discharges (pp. 109-110) are unsupportable.

With regard to the ocean discharge criteria, AOGA would add that nothing contained in the Evaluation shows that WET limits on treated seawater are needed to avoid unreasonable degradation of the marine environment. These are truly minor discharges, with no potential for having anything more than insignificant impacts on receiving waters.

Response

WET testing requirements only apply to miscellaneous discharges in excess of 10,000 per day.

In addition, please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-120.010

Fate And Effects Of Drilling Discharges

Section 3 of the Evaluation, and the discussion of Criterion 2 on p. 112, both of which deal with the transport, persistence, and fate of discharged substances, do not mention the Proposed Permit's requirement for baseline studies at exploratory drilling sites. In fact, the Evaluation contains extensive discussion of the fate and effects of drilling discharges, particularly in Section 3 (pp. 27-28) and Section 5 (pp. 45-48). There is no discussion similar to Sections 3 and 5 in the Fact Sheet for the Proposed Permit. If there were, it would have been more readily apparent that there is no need for the fate and effects or "baseline" studies called for in the Proposed Permit. Moreover, the Proposed Permit and Fact sheet fail to acknowledge the substantial body of information that has been gathered in the studies referenced in AOGA's comments on the Proposed Permit.

The Evaluation provides no reason to believe that the studies of drilling discharges called for in the Proposed Permit are needed to comply with section 403. EPA may remove that study requirement, as AOGA has requested, without implicating the ocean discharge criteria.

Authorizing Discharge From New Development And Production Facilities

As noted in AOGA's general comments above, section 403 applies only to those facilities discharging to the territorial sea and the waters of the contiguous zone, and does not apply to any facilities, including new facilities, discharging to inland waters. Thus, the ocean discharge criteria have no relevance to any new development and production facilities that may be located northward of the line drawn across Cook Inlet at the south end of Kalgin Island (see Evaluation at p. 4), and authorizing discharge from those facilities would have no impact on the Evaluation or on the Proposed Permit's compliance with section 403.

For exploration sites and new development and production facilities located in the territorial sea or the contiguous zone, the Evaluation contains sufficient information to demonstrate that discharges of drilling muds, cuttings, and produced water from those facilities would not unreasonably degrade the marine environment. In particular, the discussion of produced water and drilling discharges contained in Section 3 (Transport, Persistence, And Fate Of Materials Discharged) and Section 5 (Potential Impacts Of Discharges On Marine Organisms) demonstrate that those discharges would have minimal effects.

As discussed in Section 5, drilling discharges are episodic, and typically only a few hours in duration, so organisms living in the water column are unlikely to have long term exposure to drilling fluids. See Evaluation at p. 45. This is particularly true in a high energy environment like Cook Inlet. See Section 3. Furthermore, the toxicity of discharged drilling fluids is limited to an LC50 of less than 30,000 ppm for the suspended particulate phase, which EPA's Essential Fish Habitat Assessment For The Cook Inlet NPDES Permit characterized (at p. 33) as "practically nontoxic."⁽¹⁾ The main impact from drilling discharges appears to be the potential for localized deposition of larger particles to cause physical displacement of some portion of the benthic community immediately around the discharge location. See Evaluation at 58. However, accumulation of sediments in many areas of Cook Inlet is limited by the strong currents, which prevent deposition of smaller particles. See Evaluation at 57. To the extent the benthic community is effectively buried in a small area, the resulting physical

dislocation impacts are of short duration. See Evaluation at 58.

Section 5 also provides a general discussion of the toxicity of produced water discharges (pp. 50-53). As noted on page 51, "produced waters sampled during the Cook Inlet Discharge Monitoring Study Program would range in toxicity from slightly toxic to practically nontoxic prior to discharge and subsequent mixing in the water column." And as noted in Section 3 of the Evaluation (p. 27), the high-energy Cook Inlet environment produces mixing that dilutes produced water discharges a thousand times within a few hundred meters of the discharge point. (2) The Evaluation notes a theoretical potential for creatures in the water column to experience chronic exposure to hydrocarbons, but only in areas with low or limited circulation - a condition that does not exist in potential discharge areas in Cook Inlet.

Footnotes

(1) AOGA notes that at p. 46, the Evaluation comments on the variability of toxicity test results on drilling fluids, suggesting that this variability can be attributed to the variability and complexity of the drilling fluids. EPA failed to mention an equally probable cause: the inherent variability of WET testing methods. It is very difficult to control WET tests, so that the cause of any observed effects can be accurately attributed. This class of test methods always has had problems with reproducibility of results.

(2) Among the Evaluation's comments on the rapid mixing that occurs in Cook Inlet is the following: "At some point within this several-hundred-meter distance, acute and chronic criteria would be exceeded." It would be more accurate to say: "At the point of discharge, produced water may exceed some water quality standards, including acute and chronic criteria. If so, the rapid mixing that occurs within the several-hundred-meter distance just described quickly dilutes the discharge to concentrations below water quality standards."

Response

The ODCE provides a discussion of fate and transport of substances related to exploratory drilling including within Cook Inlet. However, most of the research on oil and gas activities has been associated with exploration in the Gulf of Mexico and the Atlantic Ocean. EPA believes that additional baseline characterization is advantageous for future permitting decisions and necessary to develop a more complete characterization of conditions within Cook Inlet.

The ODCE has been clarified to reflect that it does not apply to discharges in upper Cook Inlet (Coastal Waters).

Comment ID CI-120.011

With regard to fisheries and subsistence resources, the conclusion of Section 7 is that routine exploration, development, and production activities will have insignificant impacts on the quality or quantity of commercial, recreational, and subsistence harvests. See Evaluation at 90. This would remain true if the Proposed Permit authorized produced water and drilling discharges from new facilities in areas subject to section 403. The analysis contained in Section 7 is equally applicable to such discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-120.012

Section 9 (Marine Water Quality) contains discussions of drilling and produced water discharges. Nothing in this section suggests that allowing discharges from exploration and new development and production facilities would have more than a minor impact on the marine environment.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-120.013

In sum, nothing in the Evaluation supports prohibiting drilling and produced water discharges from exploration and new development and production facilities. Revising the Proposed Permit to allow such discharges would not significantly change the Evaluation.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-120.014

The Evaluation demonstrates that the discharges authorized by the Proposed Permit would comply with EPA's ocean discharge criteria, and would not unreasonably degrade the marine environment of Cook Inlet. The Evaluation, as explained above and as supplemented by AOGA's comments on the Proposed Permit, also demonstrates that EPA may change the permit in the ways requested by AOGA, and the permit would continue to comply with section 403 of the Clean Water Act.

There are some errors in the Evaluation, particularly in its discussion of the existing discharges. For the most part, those errors are irrelevant to the evaluation, since the existing discharges do not occur in waters that are subject to section 403. Where the errors relate to the Proposed Permit, AOGA has responded to them in its comments on the Proposed Permit, and notes them here only by way of example.

Response

As stated previously, EPA has clarified the ODCE to state that existing discharges are not subject to Section 403.

In addition, please reference the following in the Response to Comment Document:

Response # 1

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-121.001

Affected (Baseline) Environment

Section 3 of the EA describes baseline conditions in Cook Inlet. For the most part, this portion of the EA appears reasonably accurate. However, comments attributed to traditional ecological knowledge (TEK) interviewees have been inserted at several places (e.g., EA at pp. 3-10, 3-11, 3-20) that are inconsistent with or conflict with the EA's description of the physical environment. No effort has been made to reconcile these conflicts, and indeed, EPA indicates that it has shaped its proposed action in response to TEK comments, even though those comments conflict with the EA's descriptions of the physical environment.

Response

The purpose of the TEK interviewing is to obtain information or insight that may not be available through traditional pathways. EPA has a responsibility to balance tribal concerns with industry perspectives. The intent of documenting observations in the form of TEK is not to necessarily corroborate scientific studies but to supplement this information. Where the two sources conflict, the EA presents both and EPA believes the EA provides a balance and meets our regulatory requirements. The purpose of a NEPA document is public disclosure; there is no requirement for a reconciliation of conflicting information.

Comment ID CI-121.002

EPA's Preferred Alternative

The EA describes as the "preferred alternative" the changes EPA proposes to make to the terms of the existing Cook Inlet NPDES permit. As explained in the EA, these include expanding the area of coverage, extending coverage to new development and production facilities, and imposing new requirements on new and existing discharges.

With regard to the proposed changes, as discussed in AOGA's comments on the proposed permit, EPA has no legal or factual basis for prohibiting the discharge of produced water, drilling fluids, or drill cuttings from new development and production facilities, or for limiting discharges from exploration sites to drilling fluids and cuttings from only five wells. Also as explained in AOGA comments, AOGA objects to the portions of the proposed permit that would add new limits on miscellaneous discharges containing treatment chemicals; expand baseline study requirements; impose new "ambient" monitoring studies on produced water discharges; and expand no-discharge buffer zones. These changes are not legally required, nor are they necessary to mitigate environmental impacts of the proposed permit.

Response

As noted in the Response to Comment Document on the draft permit and fact sheet, EPA is not prohibiting the discharge of produced water, drilling fluids, and drill cuttings for new sources or limiting the discharges from exploration facilities within Cook Inlet. These activities would not be authorized under the general permit. Operators needing to discharge these wastestreams may apply for an individual permit.

EPA's requirement for additional baseline and ambient monitoring is also well within the realm of the Clean Water Act and remains as a component of the final permit. EPA believes that the additional information provided in these studies will prove valuable for subsequent permitting actions. The expansion of the buffer zones is also maintained. T

Comment ID CI-121.003

The EA also discusses other aspects of the proposed permit, including the mixing zones proposed for discharges from existing facilities. The EA correctly describes the impact of discharges on marine water quality as minor. See EA at p. 4-3. For the most part, the EA is consistent with the Fact Sheet and the proposed permit. However, there is an error in the EA text in its description of the proposed mixing zone for the Trading Bay facility. Table 2-2 in the EA has the correct mixing zone length, but a shorter length is incorrectly stated in the text on page 2-21.

Response

The EA has been revised to reflect the correct mixing zone size.

Comment ID CI-121.004

In offering a justification for the new requirement for "ambient" monitoring around existing produced water discharges, the EA notes that sediment data has been collected in Southern Cook Inlet, over 100 miles from the existing discharges. See EA at p.2-31- 2-32. The EA fails to note that the sampling locations were selected in response to concerns from local residents that contaminants could be transported to and deposited in that area (the same concern heard in traditional ecological knowledge interviews, discussed below), or that no contamination attributed to oil and gas activity was found in those sediments. In fact, elsewhere the EA notes that this sediment sampling showed low levels of organic carbon, and "indicates an environment that generally is uncontaminated." See EA at p. 4-3. The EA incorrectly states that this sediment data - collected in a Minerals Management Service study - is the only data available on ambient conditions in Cook Inlet. Please see AOGA's comments on the proposed permit for discussion of other studies that have been completed and are ongoing in Cook Inlet.

Response

The discussion on sediments has been revised using information provided by CIRCAC. The data collected to date in Cook Inlet does not necessarily lead to the conclusion that "contaminants could not be transported to and deposited in" southern Cook Inlet. The existing data set is insufficient to make any strong conclusions, which supports the retention of the permit requirement for additional baseline monitoring program for new facilities and ambient water quality monitoring for existing discharges of produced water.

Comment ID CI-121.005

In discussing the impacts of discharges on biological resources, the EA acknowledges that "[m]ost species that inhabit Cook Inlet waters are not likely to be present in the waters close to the permitted activities or are unlikely to be affected by discharges from oil and gas exploration, production, and development facilities." See EA at p. 4-4. Given this admission, it is difficult to understand why EPA would seek ambient monitoring around produced water outfalls. A study focused around the outfalls also is rendered unnecessary by the extensive modeling done, at significant expense, to support applications for the proposed permit. That modeling used an EPA-approved model, and incorporated assumptions approved by EPA during extensive discussions of the modeling effort. The study would do little more than duplicate that modeling exercise, and in a less reliable fashion, given the difficulties of conducting a study in Cook Inlet. Modeling conducted to EPA specifications is the very basis of established permit limits and is recognized to reflect a series of conservative assumptions. Sampling within the plume can provide no additional information about concentrations of discharge constituents beyond that which is demonstrated through modeling. Similarly, sampling conducted inside proposed mixing zones would not provide information relevant to ambient water quality in Cook Inlet.

EPA personnel have repeatedly expressed their confidence in the results of discharge modeling. For example, page 54 of the EPA's own Response to Comments for the renewal of the 1986 Cook Inlet General NPDES Permit states that "The mixing zones contained in the final permit were sized using dilutions which were estimated using mathematic models. The modeling runs, which were performed. . . , used a wide range of tidal current speeds and seasonal conditions to determine conditions which would require the largest mixing zone. Because the mixing zones represent "worst case" conditions, the EPA feels that a mixing zone verification study would not provide any information that would have a significant impact on permit conditions." As stated on page 2-20 of the EA, ". . . mixing zones were established for reasonable worst case conditions".

Response

Despite numerous studies of water quality and sediments within Cook Inlet, limited information is available to describe baseline characteristics of the water body. The ambient monitoring requirement reflects an effort to bolster the information that is available and facilitate the analysis of current conditions and future trends within Cook Inlet. Since publication of the draft permit, EPA has worked with industry, ADEC and other organizations to develop a specific set of objectives for an ambient monitoring study that will provide valuable information in characterizing conditions in Cook Inlet.

[DO WE WANT TO INCLUDE DETAILS ON THE "NEW" STUDY?]

In addition, please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-121.006

As discussed in AOGA's comments on the proposed permit, the proposed ambient monitoring serves no useful purpose and would involve significant expense. The EA also states that monitoring around existing produced water outfalls is necessary for compliance with section 403 of the Clean Water Act and Ocean Discharge Criteria. This is incorrect. The existing discharges all occur in inland waters, and section 403 and EPA's Ocean Discharge Criteria do not apply to inland waters.

Response

As stated previously, EPA believes that the ambient monitoring requirement is appropriate and necessary.

The reference to the Ocean Discharge Criteria Evaluation under Section 403 has been deleted.

Comment ID CI-121.007

EPA's proposal for "baseline" studies at exploratory drilling sites is similarly flawed. The EA correctly states that the expired general permit required operators of new exploration Facilities that were within 4,000 meters of sensitive areas to conduct baseline monitoring of the fate and effects of drilling fluids and cuttings discharges. Additional monitoring is being proposed for all new facilities installed after the effective date of the new permit in order to "fulfill EPA's requirements under CWA section 403(c), which requires that the potential impacts of permitted discharges be fully understood." The EA and the Fact Sheet fail to acknowledge the extensive work that has been done on the fate and effects of drilling discharges. Other documents associated with this permitting action, the Essential Fish Habitat Evaluation and the Ocean Discharge Criteria Evaluation, contain extended discussions of this information (e.g., Ocean Discharge Criteria Evaluation Sections 3 and 5). Moreover, the need to understand potential impacts has been the basis for a multitude of regulatory actions, NEPA actions, and field studies. Results of these studies, detailed in AOGA's comments on the draft permit, demonstrate that evaluation of new facilities on a site-by-site basis is not warranted. Finally, if drilling discharges had anything other than extremely localized impacts, evidence of broader impacts would be seen in the EMAP study or other studies discussed in AOGA's comments. Instead, all available evidence supports the conclusion that drilling discharges have, at most, minor and localized impacts - as EPA has recognized in both the Essential Fish Habitat Evaluation and the Ocean Discharge Criteria Evaluation.

Response

EPA does not believe the work done within Cook Inlet relating to the fate and effects of discharges of drilling fluids and cuttings have been "extensive." EPA also disagrees with the notion that if drilling discharges has anything other than extremely localized impacts, the evidence would be seen in the EMAP study. Cook Inlet is a high energy environment; however, where discharges related to drill cuttings and fluid are concerned, the ultimate fate of these contaminants is not well understood. The current knowledge base shows the presence of low levels of contaminants occurring within Cook Inlet sediments. The source(s) of the contaminants have not been directly linked to the discharges from oil and gas activities; however, the available information is limited. The source(s) of contaminants could include oil and gas activity as well as other industrial activities, municipal discharge and, non-point sources, as well as naturally occurring seeps and outcrops. EPA believes that additional data collection during the next permit term would provide valuable information for subsequent permit renewals. Gaining a better understanding of the disposition of these materials is a desirable outcome in terms of avoiding potential impacts in the future and identifying trends. This is particularly important if oil and gas activities are to expand into areas of Cook Inlet where by AOGA's own admission hydrological conditions are different than the forelands area where existing activities are concentrated.

As discussed in earlier responses, EPA has worked with industry, ADEC and CIRCAC to refine the objectives and approach to ambient monitoring study required for operators discharging more than 100,000 gpd..

Comment ID CI-121.008

The EA recognizes (at p. 4-5) that the impact of the proposed action on threatened and endangered species would be minor, which probably overstates the likely impacts. The EA notes that any effects would likely be due to noise or disturbance, and not due to water quality impacts. The potential for disturbance already is addressed by conditions imposed through the state and federal leasing program. The EA correctly notes that water quality effects are the primary concern of this EA, which with regard to threatened and endangered species are the same as for other biological resources: no effects are likely to occur.

With regard to socioeconomic conditions, the EA recognizes the importance of water quality and biological resources to the region's fishing, recreation, and tourism industries and to subsistence harvesting. EA at p. 4-6. The EA notes comments that traditional subsistence harvest areas and practices have changed in recent years. There is no evidence that past oil and gas discharges have had any impact on subsistence, nor caused or contributed to the changes described. As the EA notes, at p. 4-7, water quality and biological resources important to these industries and subsistence users are not expected to be significantly affected by implementation of the proposed permit.

Response

Thank you for your comment.

Comment ID CI-121.009

The EA again discusses subsistence activities in the context of cultural resources (EA at pp. 4-10 - 4-11). Interviews in Alaska Native communities (discussed more fully below) identified subsistence activities, and access to clean subsistence foods, as an important social and cultural resource. AOGA agrees with this assessment of the importance of subsistence to many Alaska Native communities. After discussing this information, the EA should have reiterated the evaluations outlined above, that the Preferred Alternative is not likely to have a significant effect on water quality or biological resources. Also, the EA reports TEK comments on pages 4-10 and 4-11 that relate to cumulative effects, and should have been presented and evaluated in the "Cumulative Effects" section at pages 4-13 - 4-15,

Response

The discussion of environmental consequences for Cultural, Historic, and Archaeological Resources begins with the statement "No effects would be expected." Continuing with the format of the rest of the document the remainder of the sections discusses key aspects of the analysis for the particular resource. The cross references to water quality and biological resources are not necessary since each of the relevant sections contain their own summary.

The paragraph referencing cumulative effects was moved to the Cumulative Effects discussion (Section 4.13)

Comment ID CI-121.010

Alternative 2 - no produced water discharge from existing facilities - is inconsistent with EPA's effluent guidelines for the coastal oil and gas subcategory. As EPA points out in the Fact Sheet for the proposed permit, EPA cannot impose limits more stringent than the effluent guidelines, unless such limits are needed to ensure that State water quality standards are met. Fact Sheet at p 25; see 40 CFR 122.44. The Fact Sheet and the proposed permit are an admission by EPA that a prohibition on discharge of produced water from existing facilities is not needed to ensure compliance with State water quality standards.

In addition, contrary to the EA's assertion in section 4.7.2. (p. 4-7), alternative 2 would have significant adverse socioeconomic impacts. Re-injection of produced water is not economically or technologically feasible for most, if not all, existing facilities. Imposing this requirement would cause most, if not all, of the existing facilities to shut down. EPA recognized as much in the technical analysis done to support its adoption of the effluent guidelines. The discussion of the impacts of Alternative 2 in the EA should refer to and reflect EPA's prior analysis, which is set forth in the administrative record for the effluent guidelines.

The EA correctly notes, at p. 4-4, that prohibiting produced water discharges from existing facilities would have little impact on biological resources, since those discharges comply with state water quality standards, and most species that inhabit Cook Inlet are not likely to be present in the waters close to the permitted activities or are unlikely to be affected by the discharges.

With regard to water quality, the EA correctly states at p. 4-3 that the benefits of prohibiting produced water discharge from existing facilities would be minor. The EA also states that zero discharge of produced water would reduce or eliminate the release of contaminants from petroleum activities to Cook Inlet. The EA should have reiterated the further point made in connection with the preferred alternative, that the benefits would be minor because limitations and conditions would be imposed on these produced water discharges in order to maintain water quality and prevent unreasonable degradation of the marine environment.

Response

The EA reflects EPA's approach to the revised general permit (Proposed Action) and alternatives to that permitting approach. Alternative 2 simply reflects one approach to implementing the general permit. If Alternative 2 were to have been selected, operators would have had the option to apply for an individual permit rather than selecting to be covered by the general permit. EPA stands by its findings in terms of socioeconomics under Alternative 2 since companies would have the option of applying for individual permits rather than being forced to shut down. The additional socioeconomics and water quality discussions as suggested would be unnecessary.

Comment ID CI-121.011

Alternative 3- authorizing produced water discharge from new facilities as well as existing facilities - should have been EPA's preferred alternative. The effluent guidelines for coastal and offshore subcategories authorize the discharge of produced water from new facilities in Cook Inlet. The EA fails to show any significant environmental impacts from such discharge, and neither the EA nor the proposed permit and Fact Sheet demonstrate that such prohibition is needed to comply with State water quality standards. As noted above, in the Fact Sheet for the proposed permit, EPA acknowledged that it cannot impose limits more stringent than the effluent guidelines, unless such limits are needed to ensure that State water quality standards are met. Fact Sheet at p. 25; see 40 CFR 122.44. EPA has no valid legal or factual reason for prohibiting produced water discharges from new facilities.

With regard to water quality, the EA correctly notes, at p. 4-3, that the impacts of Alternative 3 would be the same as Alternative 1, the Preferred Alternative. Authorizing discharges of produced water and drilling muds and cuttings from new development and production facilities would have minor adverse effects, with no meaningful increase in effects over what would occur under the proposed permit.

With regard to biological resources, the EA correctly notes, at p. 4-5, that discharges of produced water from new production facilities would be expected to have minor impacts on biological resources, because all discharges would be required to comply with Alaska's water quality standards, if in coastal waters or the territorial sea, as well as federal ocean discharge criteria, if applicable. The EA also correctly states that, in addition, most species that inhabit Cook Inlet waters are unlikely to be present in the waters close to the new facilities, or are unlikely to be affected by the discharges.

With regard to socioeconomic resources, the EA states (at p. 4-7) that the impacts of Alternative 3 would be the same as Alternative 1. Actually, allowing discharge from new development and production facilities will improve the economics of those facilities, making more marginal discoveries economic to produce. Thus, Alternative 3 could be expected to have greater economic benefits than Alternative 1.

Response

Thank you for your comment. Alternative 1 remains EPA's preferred alternative and reflects EPA's permitting approach from reissuance of the general permit.

Comment ID CI-121.012

"No Action" Alternative

EPA has made clear in its Statement of Purpose and Need that the agency's proposed action is to expand the area of coverage of the Cook Inlet NPDES permit and extend the permit to new facilities. It is the potential impact of these proposed changes that EPA set out to evaluate in the EA. In this circumstance, it is appropriate for the "No Action" Alternative to be renewal of the existing permit, without the proposed changes to its scope and terms. Renewal of the permit without amendment would not authorize discharges from new facilities, would not expand the coverage area, and would not modify permit terms applicable to existing facilities. As those are EPA's proposed actions, a simple renewal that does not incorporate those changes is correctly characterized as a "No Action" alternative.

In discussing the impacts of the No Action Alternative, the EA recognizes that continuing the existing discharges, without imposing the mitigation measures proposed in the EA and the proposed permit would not have an effect on water quality (p. 4-4, biological resources, noting again that most species that inhabit Cook Inlet are not likely to be present in waters close to the discharges, or to be affected by the discharges,(p. 4-5), threatened or endangered species (p. 4-6), socioeconomic conditions, including subsistence harvest (p. 4-7), or cultural and historical resources, including subsistence uses viewed as a cultural resource (p. 4-11). AOGA agrees with this assessment.

Response

Thank you for your comment.

Comment ID CI-121.013

Traditional Ecological Knowledge

The EA discusses at several places the input received through interviews conducted in Alaska Native communities. This is described by the EA as "traditional ecological knowledge" or TEK. Most, if not all, of the concerns related to potential impacts on subsistence resources. The communities in which these interviews occurred are as much as 100 miles away from the existing discharges in Cook Inlet. None of the existing discharges occur near areas utilized for subsistence food gathering. For example, the EA notes that households in Tyonek, the closest Alaska Native community to many of the existing facilities, collect shellfish in the lower Inlet between Drift River and Tuxedni Bay, "well out of the project area." EA at p. 3-102. Only the Tyonek salmon fishery could be considered a nearby subsistence fishery, with residents of all other communities fishing at great distances from the discharges. As recognized in the EA and other permitting documents, such as the Essential Fish Habitat Evaluation, the permitted discharges do not have any recognizable effect on highly mobile species, like the fish targeted by subsistence fisheries.

The EA describes (at pp. 2- 10 - 2-11) generalized fears and questions concerning oil and gas discharges that were expressed during TEK interviews. The EA further expands on the results of the TEK interviews in section 3.13, Traditional Ecological Knowledge, at pp. 3-115 - 3-118. Nothing in the EA correlates those generalized fears and questions to any actual or potential impacts from oil and gas discharges. Indeed, to the extent the TEK interviews identified specific concerns, information found elsewhere in the EA demonstrates that those concerns have no factual basis or that those concerns have already been evaluated by EPA and others and found to be unsubstantiated or present insignificant risks.

Some of those interviewed described what they perceived as a generalized reduction in abundance and quality of marine life (e.g., EA at pp. 3-99 - 3-100). Those interviewed did not (or were unable to) attribute those changes to oil and gas activity, but believe that multiple stressors on the marine environment, including discharges from oil and gas operations, could be causing these changes. See EA at pp. 3-115 - 3-116. The same concerns have been expressed before, and EPA already has evaluated them in a study conducted to determine what contaminants may be found in subsistence foods in Cook Inlet. (1) That study found no significant contamination, and no connection to discharges from oil and gas operations. The lack of potential for the discharges to impact biological resources also is demonstrated in other documents associated with the proposed permit: the Essential Fish Habitat Evaluation and the Ocean Discharge Criteria Evaluation.

Footnotes

(1) E.g., EPA, 2003. Survey of Chemical Contaminants in Fish, Invertebrates and Plants Collected in the Vicinity of Tyonek, Seldovia, Port Graham and Nanwalek - Cook Inlet, Alaska USEPA Region 10, Office of Environmental Assessment. Seattle, Washington.

Response

The statement "well out of the project area" has been clarified to reflect that the location is removed from the existing outfalls. The reissued general permit would allow discharges much closer to the subsistence activities discussed in the TEK interviews.

The reason for including TEK in the assessment is to account for observations by people who have

extensive experience in the area regardless that these observations are made outside of the realm of hard science. EPA considers TEK input as another component of the assessment on its own merits. Ultimately the EA finds that reissuing the permit would not significantly affect these resources.

Comment ID CI-121.014

The EA includes a discussion of EPA's subsistence foods study at pp. 3-54 - 3-66, but the EA makes no effort to correlate the study results with the concerns expressed during TEK interviews, nor does the EA discuss the significance of the detected contamination levels, or otherwise attempt to interpret the study results reported in the EA. For example, at p. 3-1 16 the EA indicates that some interviewees are aware that subsistence foods are contaminated, but do not know the source, and apparently have difficulty evaluating the risk posed by known contaminant levels. However, EPA's own study demonstrates that contamination levels are quite low, and are not traceable to oil and gas industry discharges. Furthermore, this is not the only relevant study; there have been extensive studies of Cook Inlet and its environment, discussed at length in AOGA's comments on the proposed permit. The EA should have evaluated concerns expressed during TEK interviews against the results of EPA's own study of contaminants in subsistence resources and the other studies discussed in AOGA's comments.

Response

The EA reports the results of the contaminant surveys in Cook Inlet biota. The purpose of the EA is to present the information available in order to facilitate an informed decision; the NEPA process does not necessarily require that divergent observations, such as the result of the studies and TEK observations, be reconciled.

Comment ID CI-121.015

The EA also apparently accepts at face value comments made in TEK interviews such as the assertion that Cook Inlet is a fairly closed marine system, and that there is no mechanism to move contaminants out of Cook Inlet. EA at p. 2-10. Elsewhere in the EA, however, EPA acknowledges that water circulation is such that contaminants do flush out of Cook Inlet, at a rate that is relatively invariant from season to season (p. 3-20). The discussion of Cook Inlet oceanography also recognizes that seasonal (summer) freshwater discharges into Cook Inlet increase flows out of the Inlet. EA at p. 3-10. Thus, even where the EA contains information refuting concerns raised in TEK interviews, the EA fails to draw the connection between the concern and the relevant data.

Response

As stated previously, the EA reports information from a number of sources all of which are considered in the decision-making process. NEPA does not require that each piece of information presented in an environmental analysis agree or that discrepancies be reconciled.

Comment ID CI-121.016

At several points, the EA refers to TEK comments about the potential for contaminants to concentrate in the Inlet, based on observations that there are locations where drifting material remains fairly stationary over multiple tidal cycles. EA at 2-10; 3-11; 3-115 - 3-116. In connection with one of these comments, the EA discusses a circular flow, or gyre, that can develop around Kalgin Island during fall and winter, lengthening water retention time in the upper Inlet. EA at p. 3-1 1. However, the EA contains no evaluation or response to the claim that such a gyre could cause contaminants to concentrate in Inlet waters. EPA has done a disservice to those it interviewed, and failed in its obligation to accurately describe environmental impacts, by not pointing out that this is not a physical possibility. Given the characteristics of Cook Inlet, discharges from the existing facilities, which are rapidly dispersed and diluted to below all applicable water quality standards, cannot re-concentrate in waters tens of miles away from the point of discharge.

The combined volume of all of the oil and gas discharges is so small compared to the volume of water in Cook Inlet that, given oceanographic conditions in the Inlet, there is no potential for accumulation of discharged contaminants in the Inlet waters, even if a localized gyre flow were to significantly increase the retention time in upper Cook Inlet during some portion of the year (the EA does not claim that this is more than a transient phenomenon). For example, suspended solids discharged from oil and gas drilling operations are estimated at 930 tonnes per year, while the the Knik, Susitna, and Matanuska Rivers combined discharge an estimated 36,343,000 tonnes of suspended sediments per year. EA at p. 3-21. Thus, discharges from drilling operations are equivalent to 0.0025 percent of the suspended sediments contributed by the three major rivers flowing into the northernmost part of Cook Inlet. This is a de minimis amount, even before taking into account sediment contributions from other sources. Because the contribution from oil and gas operations is so small, relative to the water and sediment volumes in Cook Inlet, a gyre flow might at worst slow the rate of dilution. However, any contribution from oil and gas discharges would be so diffused as to be undetectable long before waters enter any gyre that may form mid-Inlet.

Response

The purpose of the EA is to disclose to the public the potential impacts of a federal action and to facilitate an informed decision. As stated previously, NEPA does not require that every fact or observation in an EA be reconciled. The EA presents information related to hydrology, water quality, and TEK and acknowledges that these discussions do not necessarily support each other or agree. EPA disagrees that it has failed in its obligation to accurately describe environmental impacts.

Comment ID CI-121.017

The EA suggests that proposed "mitigation" measures are intended to increase the confidence of TEK interviewees in the monitoring conducted by permitted dischargers. EA at p. 2-11. It is a mistake for EPA to expect that additional studies and monitoring by the oil and gas facilities will resolve this concern. Among the views expressed in the interviews was a distrust of industry data. That will not be overcome by more industry data collection. That is amply demonstrated by the many concerns expressed in these interviews that are amply addressed by currently available data. It is EPA, rather than the regulated industry that is in the best position to respond to those concerns.

The EA demonstrates that there are no significant, unmitigated impacts from oil and gas discharges to Cook Inlet. At the same time, the TEK interviews show that there are problems with communicating risks to the communities where the interviews were conducted. This is clearly demonstrated by the questions about oil and gas operations listed on pages 3-116 - 3-117. EPA has available to it today information that responds to most, if not all, of these questions. EPA should use its position as a trusted source of information to help the communities understand the true nature of risks posed by oil and gas discharges. That would be a far more appropriate exercise of EPA's trust responsibility to these communities than imposing "mitigation" measures that will not respond to and will not assuage their concerns. Rather than impose expensive and unnecessary conditions on oil and gas discharges, EPA should engage in a dialogue with the Alaska Native communities, and respond to the concerns they expressed in the TEK process.

Response

The discussion of mitigation measures has been removed from the EA. Mitigation measures are typically included to address significant impacts to the environment. Since no significant impacts have been associated with reissuance of the NPDES general permit, the discussion of mitigation measures is unnecessary. Note that the items identified as mitigation measures, such as ambient monitoring requirements for large volumn produced water discharges have been retained in the permit.

Comment ID CI-121.018

Environmental Justice

Environmental justice concerns receive separate discussion in the EA, although the analysis nominally differentiates between the various alternatives evaluated in the document. The discussion of the Proposed Action notes that EPA has a tribal trust responsibility to ten Alaska Native Villages in the Cook Inlet area, and these Villages also meet EPA's environmental justice criteria. The main concern identified is safety of subsistence foods and continuation of the subsistence way of life. The EA correctly recognizes that no significant adverse impacts have been identified for any of the resources relevant to subsistence, including its role in the culture of the Villages, and the EA therefore appropriately finds no environmental justice impacts.

Response

Thank you for your comment

Comment ID CI-121.019

The EA suggests (at p. 4-13) that increasing the size of prohibited discharge zones, "ambient" monitoring, and baseline monitoring for exploratory drilling discharges would address concerns raised in TEK interviews. EPA has failed to explain how discharges occurring more than 1000 meters from sensitive areas would have more impact on subsistence resources than if the discharges are moved out to beyond 4000 meters. EPA has similarly failed to explain how any information gathered in the proposed "ambient" and "baseline" monitoring programs would respond to TEK concerns, or would provide information not already available from the many studies discussed in AOGA's comments on the proposed permit. The suggestion that this information is needed for environmental justice purposes (p. 4-13) is contradicted by the finding the EA makes in the very next paragraph, a finding supported by all of the analysis in the EA, that there are no environmental justice impacts from the proposed action. EPA has failed to adequately justify these "mitigation" measures, whether on environmental justice or any other grounds.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 3

Response # 5

Response # 9

Comment ID CI-121.020

Cumulative Effects

The first six paragraphs of section 4.13 provide a good description of the long history of oil and gas activity in Cook Inlet, the scale of likely future operations, and the physical conditions that make it unlikely that discharges from future operations will have any significant impact on the Cook Inlet environment. The EA should have added a paragraph discussing the environmental studies conducted in Cook Inlet, which show that its sediments are essentially uncontaminated, and that air and water quality are good. More than 50 years of oil industry activity in this region have not had an adverse impact on the Cook Inlet environment. Future activities under the proposed permit similarly can be expected to have minimal impacts on the Cook Inlet environment, whether EPA were to adopt none of the mitigation measures outlined in the EA, and proceed with its Proposed Action, or with Alternative 3, as suggested by these comments.

This section then recounts some of the results of TEK interviews, including requests for more research. EA at pp. 4-14 - 4-15. This research has already been completed. The EA should have presented, at this point, a summary of all of the research that has been and is being done. As discussed above, the TEK interviews demonstrate issues with communication, not with our knowledge of the Cook Inlet environment.

Response

The EA has been revised to include a summary of the sediment research done within Cook Inlet. While there is no direct evidence that discharges from the oil and gas industry are causing impacts, the extent of the studies conducted to-date are limited. While EPA agrees that additional communication may facilitate understanding of the status of contaminants in the environment, this does not preclude the need for additional data collection.

Comment ID CI-121.021

Mitigation Measures/Permit Conditions

Proposed "mitigation" measures are discussed at several points in the EA, and presented again in section 4.14 (p. 4-15). The analysis contained within the EA does not support EPA's decision to impose "mitigation" measures that increase setback distances from sensitive areas, require exploratory drilling facilities to conduct baseline monitoring, require existing produced water dischargers to conduct so-called "ambient" monitoring, impose whole effluent toxicity limits on treated seawater discharges, and prohibit produced water and drilling discharges from new development and production facilities.

The EA does not identify any significant environmental impacts from either existing or potential new discharges, and so there are no impacts to be mitigated. The EA includes a variety of comments derived from TEK interviews, but as discussed above, these statements of generalized concern cannot support imposing the proposed measures. At most, the TEK interviews show a need to provide the Alaska Native Village communities with more information - information which exists, and which EPA should take responsibility for sharing with those communities.

Response

EPA has removed the discussion of mitigation measures from the EA. Mitigation measures are typically included to address significant impacts to the environment. Since EPA has determined that no significant impacts are associated with reissuance of the NPDES general permit, the discussion of mitigation measures is unnecessary. Note that the items identified as mitigation measures have been retained in the permit.

Comment ID CI-121.022

The EA provides ample basis for EPA's finding of no significant impact. The analysis of Alternatives 3 and 4 contained in the EA also demonstrate that it would be appropriate for EPA to make a finding of no significant impact in the event EPA takes the approach advocated by these comments and AOGA's comments on the proposed permit; namely, to authorize the discharge of produced water and drilling fluids from new development and production facilities, as well as existing facilities, and to remove the "mitigation" measures discussed above.

Response

The final permit does not authorize coverage for produced water, drill cuttings, and drilling fluid discharges from new development and production facilities, new development and production operators who need to discharge these wastestreams must apply for an individual permit. As discussed above, mitigation measures have been removed from the EA.

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-122.001

AOGA strongly supports the decision to approve continued discharge of produced water, drilling muds and cuttings from existing oil and gas facilities in Cook Met consistent with the Effluent Limitations Guidelines (ELGs). We appreciate the United States Environmental Protection Agency's (EPA's) intention to include new facilities and expanded areas under this general permit, thereby reducing the need for redundant permitting processes and providing an equitable and stable regulatory environment for investors. In particular, AOGA appreciates the changes EPA has incorporated in the Total Aromatic Hydrocarbons (TAH), Total Aqueous Hydrocarbons (TAqH), and Whole Effluent Toxicity (WET) produced water limits proposed. These changes, while conservative, are appropriate.

Response

Thank you for your comment

Comment ID CI-122.002

AOGA also wishes to acknowledge the efforts of the Alaska Department of Environmental Conservation (ADEC) in working with EPA to designate mixing zones based on flow rates anticipated over the life of the permit which meet the "as small as practicable" regulatory requirement.

Response

Thank you for your comment

Comment ID CI-122.003

Prohibitions conflict with the Effluent Limitations Guidelines (ELGs)

The Proposed Permit would prohibit the discharge of produced water and drilling muds and cuttings from new facilities other than exploratory facilities. This prohibition conflicts with the effluent limitations guidelines for coastal and offshore subcategories, both of which set technology-based limits for new sources for these discharges to Cook Inlet waters. EPA has not demonstrated that prohibiting these discharges from new facilities is necessary to comply with Alaska's water quality standards in coastal waters and the territorial sea, or that it is required by the ocean discharge criteria in waters subject to those criteria. Because EPA has failed to identify any legal basis for prohibiting these discharges, which are allowed under the applicable effluent guidelines, they should be authorized by the general permit.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-122.004

Expansion of the prohibited area from 1000 meters to 4000 meters is arbitrary and capricious

EPA has proposed geographic prohibitions to discharge which, in addition to being scientifically unfounded, could be interpreted to prohibit discharge from currently operating facilities. No evidence has been presented that the 1000m prohibition contained in the Existing Permit is inadequate. The arbitrary expansion of the prohibited area from 1,000m to 4,000m, even if applied only to future facilities, infringes on State authorities. The State has previously considered risks to sensitive areas and its assessment has been reflected in tracts offered for lease. It is inappropriate for EPA to arbitrarily increase buffer zones. Further, the agency incorrectly assumes that directional drilling enables continued access to oil and gas within the prohibited area.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-122.005

Imposing WET limits on Miscellaneous Discharges is not appropriate

EPA proposes to subject small volume discharges to extensive Whole Effluent Toxicity (WET) monitoring and establish limits despite existing tracking and reporting requirements. The permit included WET concentration limits, which intermittent use at low doses conservative modeling have demonstrated to be of minimal risk, and costly and problematic sampling logistics and analyses. Treatment chemicals being used are already subject to EPA risk evaluation through product registration and have been historically used in Cook Inlet without impact. WET testing and limits for these waste streams are unnecessary and expensive. EPA has not established a defensible basis for the limits that were calculated.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Comment ID CI-122.006

EPA has proposed inappropriate new monitoring and limits

The Proposed Permit includes extensive additional monitoring and new limits for metals analyses of produced water. This burdensome requirement is not justified by historical data and in many cases is based on a single specialty sample collected for the permit application. The Proposed Permit provides reduced sampling frequency after one year if results meet limits, but does not take into account the extensive data available from studies of produced water, or years of EPA regulated monitoring of metals in produced water. Expanding metals monitoring is not justified by risk, is burdensome, and does not enhance the protections afforded by this permit.

Response

Please reference the following in the Response to Comment Document:

Response # 202

Response # 31

Comment ID CI-122.007

EPA has proposed an inappropriate new ambient study requirement

EPA has proposed an ambient monitoring study that is unwarranted, logistically infeasible, economically burdensome and repetitive of comprehensive studies recently conducted within EPA and extensive scientific studies conducted by MMS, CIRCAC and other scientific authorities. Concerns expressed during Traditional Knowledge interviews have been inappropriately cited as the basis for this requirement. AOGA believes a study clearly imposed without understanding strengths and weaknesses of the extensive body of scientific data which currently exist will be unsuccessful in providing any meaningful conclusions. EPA indicates that the goal of the study is to "determine if there is a reasonable potential for large volume produced water discharges to impact sensitive areas of Cook Inlet" The study requires an arbitrary and large number of samples within the mixing zone where analytes of interest are understood to be present based on modeling. Nothing will be proven by detecting these analytes exactly where they are expected to be. Studies are underway at several agencies which will further address current flows, mixing and assimilative capacity of Cook Inlet. (See Section 10: References, Section 1 References: Related Ongoing Studies References)

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-122.008

EPA has inappropriately proposed to require installation of a diffuser at TBPF

EPA has proposed the installation of a diffuser at Trading Bay Production Facility (TBPF) and has prepared supporting documents which provide an inaccurate basis for this requirement. Modeling confirms that mixing distances for TBPF could be reduced by installing a diffuser. However, modeling of the existing outfall also demonstrates rapid dispersion of discharges in times well below standards established for chronic and acute exposures. It will take approximately two years to design and install a diffuser on the TBPF outfall, with timing influenced by when summer field seasons fall in relation to the date of permit issuance. Therefore, a compliance schedule should be incorporated into the Proposed Permit. ... Further, EPA has inappropriately proposed to require approval of the diffuser design.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-122.009

The 401 Certification should also include an interim mixing zone to enable compliance before and during diffuser installation.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-122.010

The overall quality of the Proposed Permit is unsatisfactory

The proposed Cook Inlet permit has ballooned from the Existing Permit's 46 pages to 139 pages. The draft permit contains contradictions, redundancies, repetitive requirements, and restates analytical methods which are subject to revision independent of this permit. An effort should have been made to improve clarity or enhance the permittees' ability to understand and fully comply with the permit. Inconsistencies between the Fact Sheet and development of the effluent limitations suggest a need for improved editorial review and quality control of the permit and associated documents. A very large portion restates requirements imposed by the Coast Guard, MMS, other EPA sections and DOT. Best Management Practices Plan (BMP) and Storm Water Pollution Prevention Plan (SWPPP) requirements are duplicative and applied beyond the authority of the NPDES program. Seventeen mandatory specific BMPs are required. Clarifying definitions of value have been deleted. No provisions have been made for a compliance schedule to allow implementation of extensive changes.

Response

Thank you for your comment The final permit has been revised as appropriate.

Comment ID CI-122.011

Supporting documents also contain many errors

The supporting documents (Environmental Assessment, Biological Evaluation, Ocean Discharge Criteria Evaluation and Essential Fish Habitat Assessment) reach the correct conclusions, but contain many errors, misstatements and contradictions. For example, Ocean Discharge Criteria have been cited as a basis for actions for facilities and locations that are not subject to these criteria. AOGA has provided separate comments to address some of these errors.

Response

EPA has made every effort to correct errors and inconsistencies in the Final EA and permit documents.

Comment ID CI-122.012

EPA did not collaborate with operators

EPA Region 10 has misinterpreted government-to-government consulting obligations with Tribes to preclude communications with the Cook Inlet operators. Had EPA taken the time to better understand operations in Cook Inlet through communications with operators, and evaluate the copious data available from existing studies, a better draft permit could have been produced, and information which would have addressed many of the questions raised in Traditional Environmental Knowledge (TEK) interviews could have been provided to the Native communities. A cooperative, collaborative approach would have better served all parties and resulted in quality products.

Response

Please reference the following in the Response to Comment Document:

Response # 16

Comment ID CI-122.013

Recommendation

AOGA strongly urges EPA to give meaningful consideration to these comments and to make the recommended changes to develop clear language, establish reasonable monitoring requirements, and achievable limits.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-123.001

Entire document references the draft 401 Cert. Refer to State.

Response

Please see ADEC's Response to Comment Document on the 401 Certification.

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-124.001

Hi. My name is Marilyn Crockett, I'm the deputy director of the Alaska Oil & Gas Association. AOGA is a private trade association, some 17 member companies that account for the majority of the oil and gas exploration, development, production, transportation, refining and marketing activities in Alaska. All the companies operating in Cook Inlet who will be subject to this permit are members of our association.

Oil and gas production has safely occurred in Cook Inlet for more than 40 years. It's the discoveries of the Swanson River oilfield in 1957 that paved our way to statehood. In 1959 the first offshore lease sale was held just after we were granted statehood. First permit [sic] was installed 1964 and production began in 1965, 41 years ago. The 16th platform, the Osprey, was installed in 2001.

It was these discoveries and this new and continued production that fueled a new economy for the state of Alaska and the Kenai Peninsula. Cook Inlet production is the source of feed stock for the Kenai Peninsula's critical value added industries: The Agrium fertilizer plant which began operation in 1968; the Tesoro refinery and LNG plant which began operation in 1969. These facilities employ thousands of Alaskans and provide millions of dollars in revenues sorely needed by the Kenai Peninsula Borough, and perhaps most importantly production from the Cook Inlet and Kenai Peninsula is the sole source of heat, light and power for residents and businesses of Southcentral Alaska.

Response

Thank you for your comment.

Comment ID CI-124.002

The oil and gas industry is vitally interested in the health of the Cook Inlet ecosystem. The only way we can continue to successfully operate is if we are operating in a healthy ecosystem environment.

Alaskans made decisions in lengthy public processes about the use of our natural resources, and what risks and trade-offs we are willing to accept. This permit is only one of the literally hundreds of regulations, stipulations, mitigation measures, and state and federal laws in place to ensure those risks will be as low as possible.

Response

Thank you for your comment.

Comment ID CI-124.003

Over 40 years of oil and gas operations in Cook Inlet there has been no documented evidence that the environment has been degraded. Studies conducted over the years in areas surrounding these facilities have shown no degradation. Failing to find impacts near these facilities prompted speculation that given the dynamic tides and currents constituents were flushing out of the Inlet and accumulating there. MMS conducted a study in response to that concern, and in 2001 found that the metals and organics in lower Cook Inlet have not changed since oil and gas exploration and production began in the early '60s.

In this permit attention has again shifted back to studying areas near the facilities. Studies conducted by the Marine Mammal Lab of the National Marine Fisheries Service on Cook Inlet Beluga whale tissue have found that pollutant concentrations in this Cook Inlet stock are the lowest anywhere. Concentrations of cadmium and mercury, constituents one would expect to detect near oil and gas discharges, are considerably lower than those of other Arctic populations where no oil and gas activity is taking place.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-124.004

From its heyday in 1970 when production peaked at 225,000 barrels per day, Cook Inlet production now averages about 14,000 barrel per day. That is why this permit is so important to us. To maintain this important resource it is critical that the permit contain provisions which are consistent with the effluent guidelines for these operations, and do not add additional requirements which are not warranted given the lack of documented evidence that the environment has been impacted.

We appreciate the chance to testify again this evening. We will be submitting our detailed written comments later and hope that a common goal can be achieved, that issuance of a quality permit that meets state and federal laws contains provisions which can be met by the Cook Inlet operators and continues to protect the environment for the benefit all Alaskans, thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Marilyn Corcket

Organization: Alaska Oil and Gas Association

Comment ID CI-125.001

Good evening. My name is Marilyn Crockett and I'm the deputy director of the Alaska Oil & Gas Association. The Alaska Oil & Gas Association, or AOGA, is a trade association, 17 member companies make up the majority of the exploration, production, transportation, marketing and refining activities in Alaska.

All of our members who have operations in Cook Inlet will be affected by this permit, so we appreciate the chance to give you some testimony this evening.

Oil and gas activities have safely occurred for more than 40 years out in Cook Inlet and the surrounding area. It's the discovery, you'll remember, of the Swanson River field that paved the way for statehood for Alaskans.

After the Swanson River field was discovered the very first platform was installed in Cook Inlet in 1964, more than 40 years ago. First production came from Cook Inlet in 1965, and that paved the way for very important value-added industries on the Kenai Peninsula. The Tesoro refinery in -- the Chevron refinery first actually in 1963, the Agrium fertilizer plant in 1968, and in 1969 the LNG plant, followed almost immediately by the Tesoro plant.

In 1970 Cook Inlet oil production peaked at 228,000 barrels a day, and over time we've produced over one billion barrels both from Cook Inlet and the surrounding on-shore area.

The production that occurs in Cook Inlet, as I mentioned, is a feed stock of the Kenai Peninsula's critical value-added industries, and those facilities provide thousands of jobs to Alaskans and provide millions of dollars in revenues sorely needed especially at this time by the Kenai Peninsula Borough. And finally it's important to remember that it's the sole source of heat, power and light for residents and businesses of Southcentral Alaska.

The oil and gas industry is vitally interested in the health of the Cook Inlet ecosystem. The only way we can continue to operate successfully is if we are operating in a healthy environment.

Response

Thank you for your comment.

Comment ID CI-125.002

Alaskans have made decisions in lengthy public processes such as this one about the use of our natural resources and what risks and tradeoffs we're all willing to accept. This permit is only one of the literally hundreds of regulations, stipulations, mitigation measures, state and federal laws that are in place to ensure that those risks will be as low as possible.

The 40-year oil and gas history that we have in Cook Inlet has been documented with numerous studies, which have documented no evidence that the environment has been degraded. Environmental studies conducted nearby the facilities in Cook Inlet a number of years ago showed no degradation, failing to find any impacts from local -- from the studies that were conducted close to the local facilities. Speculation became apparent that perhaps given the dynamic tides and currents of Cook Inlet, these constituents were flushing out of the Inlet and ultimately accumulating down in lower Cook Inlet.

In response to that U.S. Minerals Management Service conducted a study to address those concerns, and in 2001 found that the metals and organics in lower Cook Inlet have not changed since oil and gas began in the 1960s.

With regard to impacts on Cook Inlet Beluga whales, studies have been conducted by the Marine Mammal Lab over a number of years by the National Marine Fisheries Service on whale tissues from Cook Inlet Beluga whales, and in fact from other Beluga whales around Alaska. Those studies have found that the pollutant concentrations in the Cook Inlet stock are among the lowest anywhere. Concentrations of cadmium and mercury constituents one would expect to find in an area with oil and gas development and with discharges were considerably lower than other Arctic populations of the Beluga whale.

The permit before us today contains a number of new restrictions and environmental requirements, and we will be submitting detailed comments on those prior to the comment deadline. We seriously question the need for these additional requirements given the studies that have been conducted and the views that there have been no impacts from these oil and gas operations.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-125.003

I'd like to thank you for the chance to testify this evening. As I mentioned, we will be submitting exhaustive written comment on the proposal, and we hope that a common goal here can be achieved that issuance of a quality permit that meets state and federal law contains the provisions which can be met by the Cook Inlet operators and continues to protect the environment for the benefit of all Alaskans. Thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-126.001

Good evening. See if I can meet my time limit I want to.

My name is Marilyn Crockett and I'm the deputy director of the Alaska Oil & Gas Association, and we're a private non-profit trade association with 17 member companies who account for the majority of oil and gas activities in the state, exploration, production, refining and marketing activities in Alaska. All of the companies who are currently operating in Cook Inlet who will be affected by this permit are members of AOGA.

Oil and gas production has safely occurred for more than 40 years in Cook Inlet. It's the discoveries of the Swanson River field in 1957 that paved the way to statehood. First platform was installed in 1964 and production began in 1965, 41 years ago. The 16th platform, the Osprey platform, was installed in 2001.

It was these discoveries and this new and continued production that fueled a new economy for not only the state of Alaska, but indeed for the Kenai Peninsula. Cook Inlet production is the source of feed stock for the Kenai Peninsula's critical value-added industries: The Agrium fertilizer plant which began in 1968; the Tesoro refinery and LNG plant which began in 1969.

Response

Thank you for your comment.

Comment ID CI-126.002

These facilities employ thousands of Alaskans and provide millions of dollars in revenue sorely needed by the Kenai Peninsula Borough. Perhaps most importantly, production from Cook Inlet and the Kenai Peninsula is the sole source of heat, light and power for residents and businesses of Southcentral Alaska.

The oil and gas industry is vitally interested in the health of the Cook Inlet ecosystem. The only way we can continually successfully operate is if we're operating in a healthy ecosystem environment. Alaskans make decisions every day in lengthy public processes about the use of our natural resources and the risks and the trade-offs they are willing to accept. This permit is only one of the literally hundreds of regulations, stipulations, mitigation measures and state and federal laws to ensure that those risks will be as low as possible.

Over the 40 years of oil and gas operations in Cook Inlet there has been no documented evidence that the environment has been degraded. Environmental studies conducted over the years in areas surrounding these facilities showed no impact. Failing to find impacts there prompted speculation that given the dynamics of the tides and currents in Cook Inlet constituents were flushing out of the Inlet and accumulating elsewhere. And this prompted the MMS to conduct a study in response to that concern, and as mentioned earlier in 2001, issued their findings that metals and organics in lower Cook Inlet have not changed since oil and gas exploration began in the early 1960s. In this permit attention has again shifted back to studying the areas near the facilities.

Studies by the Marine Mammal Lab of the National Marine Fisheries Service in Cook Inlet of the whale tissues of the Cook Inlet Beluga whale found that pollutant concentrations in that stock are the lowest anywhere. Concentrations of cadmium and mercury, constituents one would expect to find near oil and gas discharges, are considerably lower than other Arctic populations where no oil and gas activity is taking place.

From its heyday in 1970 when production in Cook Inlet peaked at 225,000 barrel per day, Cook Inlet production now averages about 14,000 barrels per day. That's why this permit is so important to us. To maintain this important resource it is critical that the permit contain provisions which are consistent with the effluent guidelines for these operations and do not add additional requirements which are not warranted given the lack of documented evidence that the environment has been impacted.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-126.003

I appreciate this opportunity to testify this evening. As you know, we will be submitting very detailed written comments later at the comment deadline and hope that a common goal can be achieved for issuance of a quality permit that meets state and federal law, that contains provisions that can be met by the Cook Inlet operators, and continues to protect the environment for the benefit of all Alaskans. Thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Marilyn Crocket

Organization: Alaska Oil and Gas Association

Comment ID CI-127.001

AOGA strongly supports the decision to approve continued discharge of produced water, drilling muds and cuttings from existing oil and gas facilities in Cook Inlet consistent with the Effluent Limitations Guidelines (ELGs). We appreciate the United States Environmental Protection Agency's (EPA's) intention to include new facilities and expanded areas under this general permit, thereby reducing the need for redundant permitting processes and providing an equitable and stable regulatory environment for investors. In particular, AOGA appreciates the changes EPA has incorporated in the Total Aromatic Hydrocarbons (TAH), Total Aqueous Hydrocarbons (TAQH), and Whole Effluent Toxicity (WET) produced water limits proposed. These changes, while conservative, are appropriate.

Response

Thank you for your comment

Comment ID CI-127.002

AOGA also wishes to acknowledge the efforts of the Alaska Department of Environmental Conservation (ADEC) in working with EPA to designate mixing zones based on flow rates anticipated over the life of the permit which meet the "as small as practicable" regulatory requirement.

Response

Thank you for your comment

Comment ID CI-127.003

The following issues summarize some of AOGA's major concerns with the Proposed Permit: Prohibitions conflict with the Effluent Limitations Guidelines (ELGs)

The Proposed Permit would prohibit the discharge of produced water and drilling muds and cuttings from new facilities other than exploratory facilities. This prohibition conflicts with the effluent limitations guidelines for coastal and offshore subcategories, both of which set technology-based limits for new sources for these discharges to Cook Inlet waters. EPA has not demonstrated that prohibiting these discharges from new facilities is necessary to comply with Alaska's water quality standards in coastal waters and the territorial sea, or that it is required by the ocean discharge criteria in waters subject to those criteria. Because EPA has failed to identify any legal basis for prohibiting these discharges, which are allowed under the applicable effluent guidelines, they should be authorized by the general permit.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-127.004

Expansion of the prohibited area from 1000 meters to 400~meters is arbitrary and capricious

EPA has proposed geographic prohibitions of discharge which, in addition to being scientifically unfounded, could be interpreted to prohibit discharge from currently operating facilities. No evidence has been presented that the 1000m prohibition contained in the Existing Permit is inadequate.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.005

The arbitrary expansion of the prohibited area from 1,000m to 4,000m, even if applied only to future facilities, infringes on State authorities. The State has previously considered risks to sensitive areas and its assessment has been reflected in tracts offered for lease. It is inappropriate for EPA to arbitrarily increase buffer zones.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.006

Further, the agency incorrectly assumes that directional drilling enables continued access to oil and gas within the prohibited area.

Response

Thank you for your comment

Comment ID CI-127.007

Imposing WET limits on Miscellaneous Discharges is not appropriate. EPA proposes to subject small volume discharges of treated Cook Inlet water to extensive Whole Effluent Toxicity (WET) monitoring and establish limits despite existing tracking and reporting requirements, proposed concentration limits, intermittent use at low doses, conservative modeling which demonstrates minimal risk, and costly and problematic sampling logistics and analyses. Treatment chemicals being used are already subject to EPA risk evaluation through product registration and have been historically used in Cook Inlet without impact. WET testing and limits for these waste streams are unnecessary and expensive. EPA has not established a defensible basis for the limits that were calculated.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Comment ID CI-127.008

EPA has proposed inappropriate new monitoring and limits. The Proposed Permit includes extensive additional monitoring and new limits for metals analyses of produced water. This burdensome requirement is not justified by historical data and in many cases is based on a single specialty sample collected for the permit application.

Response

Please reference the following in the Response to Comment Document:

Response # 202

Comment ID CI-127.009

The Proposed Permit provides reduced sampling frequency after one year if results meet limits, but does not take into account the extensive data available from studies of produced water, or years of EPA regulated monitoring of metals in produced water. Expanding metals monitoring is not justified by risk, is burdensome, and does not enhance the protections afforded by this permit.

Response

Please reference the following in the Response to Comment Document:

Response # 202

Response # 31

Comment ID CI-127.010

EPA has proposed an inappropriate new ambient study requirement

EPA has proposed an ambient monitoring study that is unwarranted, logistically infeasible, economically burdensome and repetitive of comprehensive studies recently conducted within EPA and extensive scientific studies conducted by MMS, CIRCAC and other scientific authorities.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.011

Concerns expressed during Traditional Knowledge interviews have been inappropriately cited as the basis for this requirement. AOGA believes a study clearly imposed without understanding strengths and weaknesses of the extensive body of scientific data which currently exist will be unsuccessful in providing any meaningful conclusions.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 9

Comment ID CI-127.012

EPA indicates that the goal of the study is to "determine if there is a reasonable potential for large volume produced water discharges to impact sensitive areas of Cook Inlet" The study requires an arbitrary and large number of samples within the mixing zone where analytes of interest are understood to be present based on modeling. Nothing will be proven by detecting these analytes exactly where they are expected to be. Studies are underway at several agencies which will further address current flows, mixing and assimilative capacity of Cook Inlet. (See Section 10: References, Section 1 References: Related Ongoing Studies References)

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.013

EPA has inappropriately proposed to require installation of a diffuser at TBPF

EPA has proposed the installation of a diffuser at Trading Bay Production Facility (TBPF) and has prepared supporting documents which provide an inaccurate basis for this requirement. Modeling confirms that mixing distances for TBPF could be reduced by installing a diffuser. However, modeling of the existing outfall also demonstrates rapid dispersion of discharges in times well below standards established for chronic and acute exposures.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.014

It will take approximately two years to design and install a diffuser on the TBPF outfall, with timing influenced by when summer field seasons fall in relation to the date of permit issuance. Therefore, a compliance schedule should be incorporated into the Proposed Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.015

The 401 Certification should also include an interim mixing zone to enable compliance before and during diffuser installation.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.016

Further, EPA has inappropriately proposed to require approval of the diffuser design.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.017

The overall quality of the Proposed Permit is unsatisfactory

The proposed Cook Inlet permit has ballooned from the Existing Permit's 46 pages to 139 pages. The draft permit contains contradictions, redundancies, repetitive requirements, and restates analytical methods which are subject to revision independent of this permit. An effort should have been made to improve clarity or enhance the permittees' ability to understand and fully comply with the permit. Inconsistencies between the Fact Sheet and development of the effluent limitations suggest a need for improved editorial review and quality control of the permit and associated documents. A very large portion restates requirements imposed by the Coast Guard, MMS, other EPA sections and DOT.

Response

Thank you for your comment. The final permit has been streamlined and revised as appropriate.

Comment ID CI-127.018

Best Management Practices (BMP) Plan and Storm Water Pollution Prevention Plan (SWPPP) requirements are duplicative and applied beyond the authority of the NPDES program. Seventeen mandatory specific BMP Plans are required. Clarifying definitions of value have been deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 227

Response # 81

Comment ID CI-127.019

No provisions have been made for a compliance schedule to allow implementation of extensive changes.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Response # 190

Comment ID CI-127.020

Supporting documents also contain many errors

The supporting documents (Environmental Assessment, Biological Evaluation, Ocean Discharge Criteria Evaluation and Essential Fish Habitat Assessment) reach the correct conclusions, but contain many errors, misstatements and contradictions. For example, Ocean Discharge Criteria have been cited as a basis for actions for facilities and locations that are not subject to these criteria. AOGA has provided separate comments to address some of these errors.

Response

EPA has made every effort to correct errors and inconsistencies in the Final EA and permit documents.

Comment ID CI-127.021

Supporting documents also contain many errors

The supporting documents (Environmental Assessment, Biological Evaluation, Ocean Discharge Criteria Evaluation and Essential Fish Habitat Assessment) reach the correct conclusions, but contain many errors, misstatements and contradictions. For example, Ocean Discharge Criteria have been cited as a basis for actions for facilities and locations that are not subject to these criteria. AOGA has provided separate comments to address some of these errors.

Response

Thank you for your comment. EPA has addressed specific comments individually.

Comment ID CI-127.022

Supporting documents also contain many errors

The supporting documents (Environmental Assessment, Biological Evaluation, Ocean Discharge Criteria Evaluation and Essential Fish Habitat Assessment) reach the correct conclusions, but contain many errors, misstatements and contradictions. For example, Ocean Discharge Criteria have been cited as a basis for actions for facilities and locations that are not subject to these criteria. AOGA has provided separate comments to address some of these errors.

Response

Thank you for your comment. EPA has addressed the errors in the permit and supporting documents identified during internal and public reviews, as appropriate. The ODCE has been clarified to reflect that the evaluation only applies to federal waters and territorial seas. Upper Cook Inlet, which includes all existing discharges are considered inland waters for permitting purposes and is not considered in the ODCE. References to existing facilities have been removed except where they have been used provide comparative volume estimates for various discharges.

Comment ID CI-127.023

Supporting documents also contain many errors

The supporting documents (Environmental Assessment, Biological Evaluation, Ocean Discharge Criteria Evaluation and Essential Fish Habitat Assessment) reach the correct conclusions, but contain many errors, misstatements and contradictions. For example, Ocean Discharge Criteria have been cited as a basis for actions for facilities and locations that are not subject to these criteria. AOGA has provided separate comments to address some of these errors.

Response

Thank you for your comment. EPA has addressed the errors in the permit and supporting documents as appropriate.

Comment ID CI-127.024

EPA did not collaborate with operators

EPA Region 10 has misinterpreted government-to- government consulting obligations with Tribes to preclude communications with the Cook Inlet operators. Had EPA taken the time to better understand operations in Cook Inlet through communications with operators, and evaluate the copious data available from existing studies, a better draft permit could have been produced, and information which would have addressed many of the questions raised in Traditional Environmental Knowledge (TEK) interviews could have been provided to the Native communities. A cooperative, collaborative approach would have better served all parties and resulted in quality products.

Response

Please reference the following in the Response to Comment Document:

Response # 16

Comment ID CI-127.025

Recommendation

AOGA strongly urges EPA to give meaningful consideration to the comments submitted and make the recommended changes to develop clear language, establish reasonable monitoring requirements, and achievable limits.

Response

Thank you for your comment. EPA has considered all public comments in finalizing the permit.

Comment ID CI-127.026

Section 2: Overview of Cook Inlet

Cook Inlet, a large estuary in south-central Alaska, has been home to offshore oil and gas development since the 1960s. This dynamic body of water, which is about 170 miles long, is known for its extreme tides, strong currents, and ice. At the mouth, Cook Inlet opens to the Gulf of Alaska. (See Map 1: Area Map Illustrating Areas Prohibited from Discharge.)

A jutting shoreline area called the Forelands effectively divides Cook Inlet into two biological and physical zones: the upper and lower Inlet. The environment of the upper Inlet, where oil and gas facilities are located, exhibits extremes in suspended sediment loading, currents, tides, freshwater inflow from glacier fed rivers, and moving ice in winter. The grinding action of glaciers in the area produces fine particles of sediment in suspension which color the upper inlet. Upper Cook inlet water depths range from less than 60 feet off Turnagain Arm to 120 feet just north of the Forelands. Cook Inlet gradually deepens south of the Forelands with water depths ranging from 500 feet in channels near the Forelands to greater than 800 feet near the inlet entrances (Sharma, 1979).

Upper Cook Inlet Oceanography

Upper Cook Inlet, extending from the Forelands to Point Woronzof, has an area of approximately 310 square miles. Assuming an average tide of about 23 feet, about 1.5×10^{12} gallons of water flush into the upper inlet from lower Cook inlet during the tidal flow, and flush out past the Forelands during ebb tide. This extreme tidal flux twice a day produces very strong tidal currents up to 8 knots near the Forelands and 1 to 2 knots in the southern part of upper Cook Inlet (MMS, 1984). Ebbing currents are faster than flowing currents because there is a net outflow of water (equal to the inflow of river and rain water to upper inlet) from Cook Inlet. Tidal action in Cook Inlet is significant, with an average height ranging from 10 feet to about 30 feet. It has been shown through computer modeling that discharges from Cook Inlet facilities are diluted very rapidly in the dynamic, high-energy environment.

Table 1 below lists oceanographic and climatological properties of Cook Inlet and provides a comparison with Gulf of Mexico coastal and offshore areas.

ATTACHMENT 1

The major sources of freshwater and sediment (from glacial erosion) to the upper inlet are the Susitna, Knik, Chakachatna, Matanuska, Eagle, and Little Susitna rivers (Sharma, 1979). Rainfall and snowfall are the other major sources of freshwater, and several volcanoes, notably Mount Redoubt, contribute ash to the estuary. Freshwater flow into Cook Inlet varies seasonally; it is low in the winter and reaches a peak in July and August.

Because water currents in Cook Inlet are dominated by tidal flows, the circulation forms a circular, counterclockwise gyre. Oceanic water enters the lower inlet primarily through Kennedy Entrance and flows northward along the east coast. Low-salinity water from the upper Inlet flows south along the west side. However, an individual parcel of water will tend to follow a circular path, flowing north during the incoming tide and south during the ebb tide (Dames and Moore, 1978). There is a small net

southward tidal component (10 to 15 percent of the speed of the tidal currents) that flushes water gradually out of upper Cook Inlet. The movements of winter ice in the upper inlet give an indication of the rate of this non-tidal current. Sharma (1979) It is estimated that it takes winter ice floes about 28 days to drift through upper Cook Inlet into the lower inlet.

Because of the high tidal current speeds and the resulting turbulent mixing, the waters of Cook Inlet are well-mixed vertically. However, there are horizontal gradients of salinity and temperature due to freshwater inflow from rivers. Salinity of Cook Inlet waters in the summer during maximum river flow ranges from about 32 parts per thousand (ppt) at the entrance, to 27 ppt at the Forelands, and 8 ppt at Anchorage (Kinney et al., 1970). Seawater salinity tends to be lower in the western inlet than in the eastern inlet.

The rivers emptying into upper Cook Inlet carry very high loads of suspended sediments, mainly fine glacial flour. The high tidal currents and turbulent mixing of the waters of the Inlet prevent most of these suspended sediments from settling to the bottom. As a result, concentrations of suspended sediments in the waters of upper Cook Inlet are very high. Average concentrations are about 200 mg/l, with maximum concentrations in excess of 2,000 mg/l (Sharma and Burrell, 1970; Feeley and Massoth, 1982).

The volume of water contained in a single tide (1.5×10^{12} gallons) thus contains about 2.4 billion pounds of suspended fine-grained sediments. Using EPA estimates of approximately 565,791 pounds of total suspended solids (TSS) per well and assuming the discharge over 60 days (average drilling time) with two tide cycles, the TSS contribution from drilling activities is less than 0.0004 percent. (AOGA, 1996). The fact that the bottom sediments of upper Cook Inlet are dominated by sand (Sharma and Burrell, 1970) indicates that there is little net deposition of these fine-grained sediments in the upper Inlet. They are carried south through the lower Inlet and into Shelikof Strait and the outer continental shelf of the Gulf of Alaska. Dissolved and suspended solids discharged from platforms to the upper Inlet are diluted and transported out of Cook Inlet with these suspended sediments

Additional information concerning Cook Inlet's oceanography is contained in AOGA's comments on the offshore guidelines (AOGA, 1991) which are incorporated herein by reference. (See Appendix A. Section 2 References: AOGA References)

Response

Thank you for your comment.

Comment ID CI-127.027

Two types of facilities are authorized to discharge under this permit: offshore platforms where oil and gas are produced; and onshore production facilities where products are treated and prepared for shipment to market. Both types of facilities may discharge wastewaters. Page 8 of the Fact Sheet Section A erroneously states "These onshore facilities typically involve different discharges than platform-based operations." Discharges from the shore-based facilities are generated on the platforms and are consistent with the produced water discharge category.

Response

Thank you for your comment

Comment ID CI-127.028

Sixteen oil and gas platforms are located in the upper Inlet north of the Forelands, 11 oil platforms and two gas platforms (production at three other platforms has been suspended.) Platforms covered under this permit are located in water depths of 60 to 183 feet MLLW (mean lower low water). [MMS, 20033. (Forest Oil Company's Osprey Platform is located in 46 feet of water.)

Most platforms in Cook Inlet are of an older design. Effluent Guidelines for the Oil and Gas industry issued by EPA (USEPA, 1996) recognize that the design of older platforms does not allow space or infrastructure for additional wastewater treatment offshore. New offshore platforms such as the Osprey Platform were not eligible to be covered under the previous Cook Inlet General NPDES permit. The Osprey Platform operates under an individual permit and is not authorized to discharge produced water or drilling muds and cuttings. It was designed and constructed with wastewater management capabilities not practicable for older platforms. Other new facilities would be inappropriately prohibited from discharging produced water and drilling muds and cuttings under the Proposed Permit language.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-127.029

Three onshore treatment facilities support the platforms. The onshore facilities are connected to the platforms by sub sea pipelines. Together, current production from the platforms is about 20,000 barrels of crude oil and 200 million cubic feet of gas per day. The operators are Union Oil Company of California (1) (UOCC) -- a wholly owned, indirect subsidiary of Chevron, Forest Oil Corporation, XTO Energy, Inc. (XTO), Marathon Oil Company and ConocoPhillips Alaska, Inc. (CPAI).

EPA has asserted that onshore facilities discharge in near shore, sensitive areas. In fact, sub-sea piping carries wastewater to be discharged a long distance from shore. Trading Bay Production Facility, where fluids from 5 offshore platforms are treated, discharges produced water at a depth of 35 feet below MLLW, from a line that extends approximately 2.3 miles from the beach. The Granite Point Tank Farm outfall extends from the Spark Platform and is approximately 4 miles from the western shore. The East Forelands Treatment Facility outfall is approximately 800 feet from the eastern shore.

Footnotes

(1) Until August 2005 Union Oil Company of California (UOCC) was a wholly owned subsidiary of Unocal Corporation doing business in Alaska as Union Oil Company of California and sometimes colloquially known as Unocal Alaska. The original application and many subsequent submittals were made under the UOCC name. In August 2005, Union Oil Company of California became a wholly-owned, indirect subsidiary of Chevron Corporation. As a result, throughout this document and in future submittals we will use UOCC to refer to the operator formerly known as Union Oil Company of California or Unocal Alaska.

Response

Thank you for your comment

Comment ID CI-127.030

Discharges

Discharges associated with oil and gas operations generally fall into three categories: produced water; drilling muds and cuttings; and other discharges such as treated domestic and sanitary wastewaters, and Cook Inlet water which is treated and used for a variety of purposes, including waterflood, fire protection and non-contact cooling water. The largest-volume discharge is produced water.

1. Produced water

Produced water is brought to the surface with the oil and must be separated prior to sale. It occurs naturally in underground formations. Salinity levels in produced water are typically slightly lower than the Cook Inlet receiving water when comparing Forelands receiving water salinity (Okkonen and Howell, 2003 p.4-5) with platform produced water salinity values (Parametrix 2005 p.6, Table 4-1.) As oil reservoirs are depleted, the percentage of produced water brought to the surface increases as the percentage of oil decreases. Cook Inlet fields have been producing for 40 years, thus the percentage of oil in the total fluid (the oil/water ratio) is relatively low in most wells. The ratio will continue to drop until wells are no longer economic to produce. Eventually entire fields will no longer be productive. When costs to produce the oil exceed the value of the product produced, production from the facilities will be suspended.

2. Drilling muds and cuttings

Drilling muds are used to lubricate the drill bit and control the well while drilling. The primary ingredients of drilling muds are water, bentonite clay, barite and lignosulfonates. Cuttings are simply rock fragments from drilling holes.

3. Other discharges

Producing platforms are usually manned. Crew sizes vary from about 4 to about 15; however, special construction, drilling or maintenance projects can result in personnel on site up to approximately 60. Because the facilities are remote, crews typically work a 7-day shift. Domestic wastewater and treated sewage are generated from the crew quarters. Kitchen, laundry, and shower water comprise the domestic or "gray" wastewater which is discharged to Cook Inlet below the surface. Sanitary or "black" wastewater is generated from the toilets. Every platform treats the sanitary wastewater and monitors it for compliance with Alaska Water Quality Standards prior to discharge (again below the surface.)

Filtered Cook Inlet water is used on the platforms for several purposes including non-contact cooling, fire protection, and waterflood. The practice of waterflood is an enhanced oil recovery method which increases production by injecting treated Cook Inlet water back into the formation to maintain pressure and help push the oil toward the producing wells. Excess waterflood is water which has been brought up to tanks on the platform and treated in preparation for injection. Excess waterflood water is water which overflows back into the Inlet if it is not used in the injection process. Other wastewater is generated when the sand filters are backwashed to remove the silt which is filtered from the Cook Inlet water to prevent plugging of the wells during injection. Non-contact water is filtered Cook Inlet water which is circulated to cool equipment and then returned to the Inlet. Chemicals are used in many processes in order to prevent corrosion of tanks and pipes and also to reduce bacterial growth. All chemicals have been reviewed by EPA and are approved for discharge or they are not used.

Response

Thank you for your comment.

Comment ID CI-127.031

Scientists generally accept that marine communities have always been more diverse and productive south of the Forelands than north. Few resident organisms are found in the upper Inlet, where intertidal and sub-tidal communities of bottom-dwelling organisms are poorly developed. The reason for this is the high sediment content of the water and the constant shifting of the bottom by strong currents. (EPA, 2006 [EA pgs 3-32 to 3-353; Kinney et. al, 1970; Larrance et. al, 1977; CIRCAC, 2001 p. 40; SAIC, 2002). Over 90 percent of the commercial fishery harvest in Cook Inlet is below the Forelands.

Cook Inlet Beluga Whales

Beluga whales have coexisted with oil and gas activities in Cook Inlet for over 40 years. Evidence of this is cited in the EA at page 3-66:

Tissues from Cook Inlet beluga whales (CIBW) collected as part of the Alaska Marine Mammal Tissue Archival Project were analyzed for PCBs, chlorinated pesticides, and heavy metal and other elements. Concentrations . . . were compared with belugas from two Arctic Alaska locations (Point Hope and Point Lay), Greenland, Arctic Canada and the highly contaminated stock from the St. Lawrence estuary in eastern Canada (Becker, et al. 2000).

The Arctic and Cook Inlet belugas had much lower concentrations... than those found in animals from the St. Lawrence estuary. The Cook Inlet belugas had the lowest concentrations of all ... in males and females. . .

In response to petitions filed in 1999 to list the Cook Inlet Beluga Whale (CIBW) stock under the Endangered Species Act. National Marine Fisheries Service (NMFS) reviewed the status of the CIBW and designated the stock as depleted under the Marine Mammal Protection Act (MMPA.) Investigations concluded that subsistence harvest presented the most immediate threat to the stock. (See Biological Evaluation, p. 3-23.)

NMFS developed a "Draft Conservation Plan for the Cook Inlet Beluga Whale (*Delphinapterus leucas*) in 2005 to establish goals and objectives that can be achieved cooperatively to promote the recovery of the Cook Inlet beluga whale population. The goals and objective apply to a range of potential sources of impacts. . ." (See Biological Evaluation, p. 3-23) NMFS' draft conservation plan states that available information on the Cook Inlet Beluga Whales is extremely limited.

In Federal Register, Vol. 71, No. 57, Friday, March 24, 2006 NMFS announced that they intend to again review the status of the CIBW pursuant to the ESA to determine if they should be listed as an endangered or threatened species. If NMFS determines that listing is necessary, they will also concurrently determine whether designation of critical habitat is prudent and determinable. Currently, "critical habitat is not applicable to this species because it is not designated under the ESA." (See Biological Evaluation, p. 3-22.)

The EA recognizes (at p. 4-5) that the impact of the proposed action on threatened and endangered species would be minor, which probably overstates the likely impacts. The EA notes that any effects

would likely be due to noise or disturbance, and not due to water quality impacts. The potential for disturbance already is addressed by conditions imposed through the state and federal leasing program. The EA also correctly notes that water quality effects are the primary concern of this EA, which with regard to threatened and endangered species are the same as for other biological resources: no effects are likely to occur.

Response

Thank you for your comment. While the EA and accompanying biological evaluation included the Cook Inlet beluga whale stock, NMFS reevaluation of the status of this stock is an entirely separate process.

Comment ID CI-127.032

The EA correctly notes, at p. 4-4, that prohibiting produced water discharges from existing facilities would have little impact on biological resources, since those discharges comply with state water quality standards, and most species that inhabit Cook Inlet are not likely to be present in the waters close to the permitted activities or are unlikely to be affected by the discharges

Response

Thank you for your comment

Comment ID CI-127.033

Currently, Alaska Cook Inlet Areawide Oil and Gas Lease Sale 2006 Mitigation Measure #33 prohibits offshore facilities, both temporary and permanent, in multiple lease tracts, effectively preventing those tracts from being offered for Lease. This mitigation measure was developed to protect threatened and endangered species, including the CIBW which is a candidate species. The State has thus adequately addressed these concerns. Further, if critical habitat areas are designated, the state may choose to modify the areas currently prohibited from leasing. It is not appropriate for EPA to impose restrictions which would effectively result in a taking of the State's resources by prohibiting oil and gas exploration and production in areas the state may choose to offer for lease.

Response

Please reference the following in the Response to Comment Document:

Response #3

Comment ID CI-127.034

Impacts of Discharges

In assessing the potential impact of discharges to an estuary, scientists refer to its "assimilative capacity" - i.e., the amount of a contaminant that it can receive without damage. Because upper Cook Inlet is such a dynamic environment with strong tides and currents, it is considered to have a very high assimilative capacity. (MMS, 1995, as cited in MMS, 2003 pg 111-33). As a result, discharges such as drilling muds and cuttings and produced water, which have relatively low toxicities, are greatly diluted and dispersed in the Inlet's turbulent waters. Since the net flow of water is out of the Inlet to the ocean, discharges do not accumulate in the Inlet (MMS, 2003 as cited in EPA, 2006, Essential Fish Habitat Assessment pg. 32).

The Minerals Management Service (MMS) released a study in August of 2001 and concluded in their press release for the study that this three-year study "confirms and extends the findings of earlier MMS studies which looked for but also did not find oil industry contaminants in Cook Inlet waters or sediments." No evidence of significant toxicity was observed in sediment chemistry and toxicity studies prepared in 1998 by Kinnetic Laboratories, Inc. for the Cook Inlet Regional Citizens Advisory Council (CIRCAC). Various studies have been conducted which demonstrate that oil-related constituents of produced water discharges are not expected to bioaccumulate to a significant degree in food sources and that such potential food sources have a very brief opportunity for exposure (MMS, 1995/1998a/1998b/2001a/2001b; CIRCAC, 1996a/1996b/1996c/1996d/1997/1999/2001)

Response

Thank you for your comment.

Section 4: History and Economic Impacts to Nearby Communities

Historical Perspective

In 1962, Pan American Petroleum Corporation discovered the first offshore oil in Cook Inlet. This led to extensive exploration throughout the Cook Inlet region in the 1960's and 1970's. Chevron opened a refinery in 1963, and in 1969, the Tesoro refinery began operating. Cook Inlet production peaked at 220,000 barrels per day in 1970 and has declined to 20,000 bpd. Most of the larger fields were found by the mid-1960's. The first major gas discovery occurred in October 1959 by Union Oil Company of California and Ohio Oil Company in the Kenai gas field. Gas production began the following year and continues today. Several additional large gas discoveries quickly followed and the Phillips/Marathon LNG project started operating in 1969. The Unocal fertilizer plant began operation in 1968 and is now owned and operated by Agrium U.S., Inc. By 1984, net annual natural gas production reached 217 bcf per year, and peaked at 223 bcf in 1996. Natural gas from the Cook Inlet area is the source for all of the heat, light and power needs for southcentral Alaskans.

KPB 2004 hydrocarbon industry employment

In 2004, the hydrocarbon industries of the Kenai Peninsula Borough, oil and gas and value-added manufacturing, accounted for 1,418 workers, 7.9% of the reported workforce within the Borough. Total employment for the Borough in 2004 stood at 12,084. These workers generated reported payrolls amounting to \$11,676,980, or 18.2% of total reported payrolls within the Kenai Peninsula Borough in 2004. This equates to an average monthly salary of \$6,700, or \$80,401 average annual salary. This is significant when compared with the Borough's median monthly salary of \$2,833, or the median average annual salary of \$33,996. (Kenai Peninsula Borough Oil & Gas and Mining Office, October, 2005.)

Although there has not been a recent analysis of the indirect impact on the Kenai Peninsula Borough economy by this level of employment and industry spending in the Kenai Peninsula Borough, perspective can be gained from the January, 2001 study issued by Information Insights and the McDowell Group entitled "Economic Impact of the Oil and Gas Industry in Alaska". The study examined 1999 employment and spending levels of seven producing companies and value-added industries directly involved in the Borough's economy. The study found that these companies employed 674 people and had an annual payroll of \$63 million. They also spent \$215 million on goods and services in the Kenai economy. That \$215 million in local purchases created an additional 1,412 jobs and \$54 million in payroll among support industry business, and another 1,411 in jobs and \$40 million in payroll throughout the rest of the Kenai economy. This resulted in a total indirect impact of 2,822 jobs and \$94 million in payroll. Further, the impacts resulting when the 674 employees spent their payroll, was 777 jobs and \$20 million in payroll. These data clearly demonstrate the critical role the oil and gas industry plays in a healthy economy for the Kenai Peninsula Borough.

Taxable Values and Value-added Manufacturing Taxable Values

Total taxable oil and gas property within the Kenai Peninsula Borough in 2005 was \$564 million

assessed value, the 12th highest year on record in the 30 year history of these annual valuations. These properties generate \$7.2 million in property taxes, or 14% of all property taxes collected by the Kenai Peninsula Borough in the FY06 fiscal year.

Taxable value for the value-added manufacturing facilities in the Borough, which depend upon oil and gas production from the Cook Inlet basin for their feedstocks, totaled \$363 million assessed value. These value-added properties generated approximately \$4.54 million in property taxes, or 8.9% of all property taxes collected by the Borough. (Kenai Peninsula Borough Oil & Gas and Mining Office, October, 2005.)

ATTACHMENT 2

Response

Thank you for your comment

Comment ID CI-127.036

Section 5: Permitting History

Production has occurred in Cook Inlet since the late 1960s. The first Cook Inlet General NPDES Permit was issued in 1986 and was renewed in 1999. Monitoring, recordkeeping and reporting requirements have been voluminous. Nonetheless, operators have consistently conducted monitoring as required and reported results monthly on Discharge Monitoring Reports (DMRs). These reports are submitted to EPA, ADEC, and as a courtesy, also provided to CIRCAC, which is the organization established under the Oil Pollution Act of 1990 (OPA 90) as a mechanism to foster long-term partnerships between industry, government, and the coastal communities of Alaska.

Effluent limits are difficult to achieve; and keeping up with the voluminous monitoring, recordkeeping and reporting requirements is daunting. Since 1986, occasional exceedances of permit limits have occurred. In 2002, individual operators began conducting self-audits of their compliance history and worked with EPA to address any problems identified. As a result of this voluntary effort, EPA did impose fines for violations of permit conditions which included exceedances of effluent limits, missed samples, laboratory errors such as exceeding holding times which resulted in invalid samples, etc. and administrative errors. In every instance Cook Inlet Operators accepted responsibility for the various operational problems or oversights which contributed to these violations. Operators also have responded by modifying equipment, improving procedures, processes, and tracking systems, providing additional training, streamlining reporting, etc. to eliminate violations wherever possible.

For example, New Marine Sanitation Devices (MSDs) were installed on XTO Platforms A and C to reduce the potential for exceedances. Other improvements made include: upgrading water treatment systems at UOCC's Trading Bay Production Facility; reducing discharges through injection of waste where feasible, e.g., in 2004 UOCC's Anna Platform ceased discharging produced water and deck drainage and converted to injection; in 2005, UOCC's Granite Point Platform discontinued discharging deck drainage and now injects this waste water stream. Plans are in place to upgrade sanitary waste systems to MSDs on both UOCC's Anna and Bruce platforms.

During 2003 CPAI conducted a voluntary internal evaluation of NPDES compliance for the Tyonek A platform. CPAI disclosed sanitary waste water and produced water exceedances as they were discovered during the evaluation. Additionally several changes were made at this facility based on findings in the evaluation. In March 2003, CPAI began managing the Tyonek A as an M10 facility rather than an M91M. CPN began using permitted underground injection as the primary means of produced water/deck drainage disposal in October 2003. CPAI also increased and improved employee training and environmental support, and updated procedures following the evaluation.

To prevent recurrence of violations due to laboratory error, operators review laboratory reports and request investigations and corrective action reports when laboratory errors cause questionable sample results. Performance evaluation samples and laboratory audits have been utilized to assess the accuracy and validity of data generated by laboratories.

To eliminate reporting errors, a streamlined recordkeeping and reporting system has been implemented. At UOCC, data previously stored in excel spreadsheets is now centrally located in a database (which is backed up daily in two locations) and is accessible to both field and office personnel. Data is extracted directly from the database and automatically loaded into a discharge

monitoring report which is reviewed twice. Frequency of training of field personnel has been increased; and number of staff dedicated to NPDES permit compliance and associated activities has been increased.

Best Management Practices (BMP) plans are in place for all facilities. These plans are reviewed annually by Pollution Prevention Teams whose objective is to identify new ideas on how to reduce pollution. For example, chemicals products are selected for use at facilities based on their "environmentally friendly" properties. All aspects of operations are considered for possible improvements.

Response

Thank you for your comment.

Section 6: Dilution Modeling

Justification for Modeling Approach

Dilution modeling to evaluate effluent mixing in receiving water is a widely used regulatory tool discussed extensively in EPA guidelines (USEPA 1991). Dilution modeling was used to evaluate mixing zones granted by ADEC in connection with the Existing Permit (EXISTING PERMIT) and for other Cook Inlet discharges (Parametrix 1995, 1998, 2000). Dilution prediction, whether by modeling or other means, is not an exact science (Davis 1999). The applicant's modeling contractor worked collaboratively with ADEC and EPA modeling experts and, in at least one instance, the model author, to determine the most reasonable approach for modeling Cook Inlet discharges

Necessity of Modeling

Modeling is extensively used for dilution prediction by necessity. Dye studies and other direct measurements have their own limitations and uncertainty. In dye studies the ability to detect the trajectory of the effluent plume in the receiving water is pivotal. Plumes from deeply submerged outfalls can be difficult or impossible to find, particularly in turbid, turbulent receiving water. Yet samples must be collected from within the plume in order to accurately assess dilution. Challenges in a deep, open, turbulent and turbid receiving water such as Cook Inlet include (1) finding the plume, (2) station keeping over the plume, and (3) sampling at the depth of highest effluent concentration.

In 1989, CH2M Hill conducted a dye study of the old Agrium outfall (CH2M Hill 1989); however, it is unclear whether the relevant dilutions were truly detected by extensive field sampling. In a 1994 study (Neff & Douglas 1994), water samples were collected up and down-current of the Trading Bay outfall. Although hydrocarbons were detected in the water column, it is unlikely that the highest concentration (i.e.-plume centerline) was sampled. Both studies tend to underscore the difficulty of collecting samples that are truly representative of plume centerline concentrations. Furthermore, any field study conducted over a reasonable time frame (hours, days) in a highly dynamic environment such as Cook Inlet is patently limited to a range of ambient and discharge conditions which may not represent extremes of regulatory interest.

Dilution modeling is needed to predict mixing over the full range of conditions of interest. The CORMIX (USEPA 1996) and PLUMES (USEPA 1994) manuals cite laboratory and field studies supporting the general veracity and applicability of the respective models. Given the challenges of conducting comprehensive, meaningful field studies, the well established record of dilution modeling, and the uncertain nature of dilution prediction in general, modeling is clearly the feasible alternative for predicting dilution from Cook Inlet outfalls.

Model Selection

By early 2004, EPA had expressed a preference for CORMIX for modeling the discharges covered under this permit application. PLUMES was used to model the mixing zones granted by ADEC for the Existing Permit. The CORMIX model employs a different approach for predicting dilution than the PLUMES model though both are valid. Consequently, although general trends often coincide,

CORMIX predictions rarely match PLUMES predictions for a given set of model input data. Whether one model is more "conservative" than the other is unknown and academic. EPA's preference for the CORMIX model and the fact that it is well established and widely used were sufficient reasons to use it rather than PLUMES for this application.

Ambient Induced Mixing/Modeling is Conservative

Upper Cook Inlet is a highly energetic, well mixed environment. CORMIX and PLUMES predict rather long downrange plume extensions from several outfalls, particularly at higher current speed. Yet high current speed corresponds to high ambient-induced mixing energy. It seems unlikely that the large downrange plume extensions modeled for higher current speeds can really occur. Dilution models likely predict less (or slower) dilution than actually occurs in the energetic Cook Inlet environment.

Response

Thank you for your comment

Comment ID CI-127.038

Current Speeds

For all Cook Inlet outfalls covered by this permit application, with the exception of TBPF if a diffuser is installed, mixing distance is directly proportional to current speed. Only neap tide conditions were evaluated for the Existing Permit application (Parametrix 1995). The resultant current speeds, 0.19 m/s (10th percentile) to 0.96 m/s (90th percentile), reflected low tidal exchange conditions often considered worst case in terms of exposure to organisms. Pursuant to coordinated decisions between EPA, ADEC and the applicants (ADEC 2004, Parametrix 2004a,b,c,d, Unocal 2004), the current speed data evaluated for this mixing zone application (Parametrix 2004e, 2005) reflected spring and neap tides. The resultant current speeds, 0.2 m/s (10th percentile) to 2.3 m/s (90th percentile), better represent the full range of conditions in Cook Inlet. It is appropriate to note here that guidelines (USEPA 1991) are not prescriptive as to selecting current speed data for tidal waters. The guidelines do suggest that slack tide conditions, as represented by the 10th percentile current, usually represent critical condition but that the off-design condition (90th percentile current) also needs to be evaluated.

The low tidal exchange approach used in 1995 was appropriate in the sense of emphasizing slack tide conditions which tend to be critical in marine environments. Parametrix has gravitated toward using more comprehensive tidal data sets for Cook Inlet to ensure that a full range of ambient conditions is evaluated. Differences between the old and new current speed percentile values reflect the fact that a broader data set was evaluated for this application. It is also worth noting that although National Oceanic and Atmospheric Administration (NOAA) data are available for tide stations in Upper Cook Inlet, which are subordinate stations, full current predictions are only made for reference stations (NOAA 2005). The nearest reference station is Wrangell Narrows, so even NOAA current data for Upper Cook Inlet are calculated, not measured. With no comprehensive, directly measured current data set available for Upper Cook Inlet, Parametrix generated the current speed data set for this application using commercial software (Nautical Software, Inc.). Standard statistical formulas were used to calculate percentiles from the data. Considering differences in the selection of data, the percentiles used in this application are well corroborated by the current percentiles from past Cook Inlet applications and NOAA data (Parametrix 2004c).

Modeling Idealizations and Workaround Solutions

The PLUMES and CORMIX dilution models are designed for discharges of sufficiently high velocity to induce mixing with the receiving water (jet mixing). Little or no jet mixing occurs where the effluent discharge rate is low relative to pipe diameter. Dilution models are not designed to simulate this situation, yet dilution still occurs without jet mixing. CORMIX and PLUMES simulate non-jet dilution modes driven by diffusion and dispersion. There are several low exit velocity discharges to Cook Inlet which CORMIX could not simulate exactly. A work-around approach (Parametrix 2004a) had to be devised in order to use CORMIX; namely, entering a smaller-than-actual discharge pipe diameter so exit velocity would be just high enough to allow CORMIX to run. Although the workaround solution implies jet plume conditions occur where they presumably do not, the implied conditions only occur briefly near the low velocity outfalls. The falsely predicted jet induced mixing is negligible; therefore, the overall dilution predictions, which depict effluents mixing rather slowly while swept along by the current, are reasonable. The dilution rate is likely higher than modeled due to the high ambient energy of Cook Inlet.

Dilution models are not designed to simulate discharges that fall from height to a receiving water surface, yet such discharges occur at some of the Cook Inlet platforms. The originally agreed upon approach for modeling these discharges (Unocal 2004) proved troublesome. A workaround initially suggested by the applicant's modeling contractor (Parametrix 2004a) was ultimately replaced with a better approach (mirror image approach) outlined by CORMIX author Robert Doneker during a February 18, 2005 telephone conference. In the mirror image approach, the aforementioned discharges were simulated as negatively buoyant plumes emanating straight up from the sea floor. Whereas in reality, the surface is a constraining boundary, the bottom becomes the constraining boundary in the mirror image approach. The mirror image predictions seemed reasonable, although the applicants remain of the opinion that neither WET limitations nor mixing zones are necessary for treated seawater discharges modeled using this approach.

Response

Thank you for your comment

Comment ID CI-127.039

Statistical Treatment of DMR Data

Mixing distances in this application are based on reasonable maximum concentrations (RMC). RMC are estimated effluent concentrations derived statistically from facility data using EPA guidelines (USEPA 1991) designed to account for uncertainty due to data variability. Although EPA set effluent limitations based on RMC in the Existing Permit, the associated mixing zones were based on measured maximum concentrations. The presently requested mixing zones were modeled based on RMC derived using DMR data from the Existing Permit period. The resulting mixing zones are larger than if based on measured maximum concentrations but consistent with effluent limitations equal to RMC. The mixing zones associated with the Existing Permit would also have been larger had they been based on the higher (RMC-based) effluent limitations set by EPA.

Standard of Care and Quality Assurance

Parametrix performed the dilution modeling and toxicology services associated with this application with a degree of care and skill comparable to that of similar environmental consultants performing similar work. Parametrix has established and continuously updates a company-wide quality assurance program consistent with federal and state procurement requirements. With respect to this application, Parametrix collaborated with the applicants, EPA and ADEC regarding data selection and validity, dilution model selection, technical problem resolution, and regulatory interpretation issues. Parametrix adhered to the following specific quality assurance procedures:

- Checked data transcription into spreadsheets
- Checked spreadsheet calculations
- Checked figures against tabular values
- Checked CORMIX input data transcription
- Checked data transcription to report tables
- Editorial and technical peer review of deliverables
- Client review of draft deliverables

Checks and reviews were performed by staff other than those who performed the work being checked. Services, deliverables and quality assurance practices are never flawless. Upon finding or being notified of mistakes, Parametrix endeavored to notify involved parties of connections. (See Appendix A. Section 6 References)

Response

Thank you for your comment.

Comment ID CI-127.040

Ocean Discharge Criteria

The Fact Sheet for the Proposed Permit incorrectly cites the Ocean Discharge Criteria as authority for effluent limits and other requirements in coastal waters. The Fact Sheet acknowledges, on page 15, that Ocean Discharge Criteria, developed under authority of section 403 of the Clean Water Act and contained in 40 CFR Part 125, Subpart M, apply to facilities in the territorial sea and federal waters, but not to facilities discharging in coastal waters. However, in describing the legal basis for various requirements, including expanded no-discharge buffer zones (Fact Sheet p.11), environmental monitoring of discharges of drilling muds and cuttings (Fact Sheet p. 23), and toxicity limits on treated seawater (Fact Sheet p. 31), the Fact Sheet cites to the Ocean Discharge Criteria. Since the Ocean Discharge Criteria do not apply to discharges in coastal waters, they cannot provide a legal basis for any permit requirements applicable to those discharges, nor is it appropriate to cite "consistency" with Ocean Discharge Criteria-based requirements as a legitimate basis.

Response

Please reference the following in the Response to Comment Document:

Response # 109

Response # 110

Comment ID CI-127.041

The Proposed Permit would allow a 100 meter mixing zone for chemically treated sea water and sanitary discharges from new facilities located in the territorial seas and federal waters. The Fact Sheet explains that a 100 meter mixing zone is authorized by 40 CFR § 125.121(c) and that EPA has the option of making such mixing zones smaller than 100 meters. That regulation authorizes EPA to define a larger mixing zone, as well as a smaller one. It states that EPA may set the mixing zone at the greater of 100 meters or the zone of initial dilution, or the more restrictive of the two, "or another definition of the mixing zone" if "more appropriate for a specific discharge." This language gives EPA the flexibility to allow a mixing zone larger than 100 meters in waters subject to the Ocean Discharge Criteria.

This is particularly important for discharges in the territorial sea, which are subject to Alaska's water quality standards, and as a result, also to Alaska's mixing zone rules. Under EPA's reading of 40 CFR § 125.121(c), the State of Alaska could authorize a mixing zone larger than 100 meters as consistent with the State water quality standards, but EPA would truncate that mixing zone at 100 meters and make the resulting discharge limits more stringent. EPA's justification for that action would be that § 125.121(c) does not authorize a mixing zone larger than 100 meters. Since that interpretation of the regulation is incorrect, EPA would wrongly deny the new facility a larger mixing zone and increase the stringency of their effluent limitations.

Response

Please reference the following in the Response to Comment Document:

Response # 111

Comment ID CI-127.042

This error [Comment # CI-127.041] is also particularly important if EPA corrects another mistake: the refusal to authorize produced water discharges from new facilities. Discharges of produced water and drilling wastes from new facilities are authorized by the applicable effluent guidelines, 40 CFR Part 435, and should not have been prohibited in the Proposed Permit. If EPA authorizes produced water discharges from new facilities, then it will be that much more important for EPA to also recognize that the Ocean Discharge Criteria allow mixing zones larger than 100 meters.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 111

Response # 141

Comment ID CI-127.043

The use of mixing zones and variation in effluent limits applicable to existing facilities is appropriate in a general permit.

The Proposed Permit incorporates mixing zones for the existing facilities, including facility-specific limits on chlorine in sanitary discharges and on produced water parameters. The Existing Permit also contains facility-specific produced water limits. The use of mixing zones and the resulting variation in limits within a general permit is appropriate under EPA's NPDES regulations, including the requirement of 40 CFR 122.28(a)(3) that sources in a category or subcategory must be subject to the same water quality-based effluent limitations.

EPA has long interpreted the phrase "same effluent limitations" in 40 CFR 122.28 to allow variation in the water quality-based effluent limits in general permits. In particular, EPA has always recognized that the derivation of limits using mixing analysis is appropriate in general permits, so long as the resulting limits assure compliance with state water quality standards at the edge of applicable mixing zones.

EPA provides direction on general permit development in a document titled General Permit Program Guidance. This document, developed in 1988, is available through EPA's compilation of wastewater permitting publications on the water program web site. Chapter 3 of this guidance document discusses the five criteria for issuance of general permits that appear in 40 CFR 122.28(a)(2). With regard to effluent limitations, the guidance document provides as follows:

3. Require the same effluent limitation or operating conditions.

EPA has not interpreted this requirement to mean that effluent limitations or operating conditions must be identical. ... The general permit can be fine-tuned with requirements to ensure that State water quality standards are not exceeded, or that facilities discharging to water quality-limited or special use streams are excluded from coverage under the general permit.

USEPA Office of Water, General Permit Program Guidance, pp. 13-14 (February 1988). The guidance document goes on to explain that when this and the other criteria for using a general permit are met, "the actual development of the general permit can proceed just as for any individual permit." *Id.* at 17. In outlining the development of general permits, the document specifically addresses the relationship between general permits and state water quality standards, stating:

EPA has published methods for establishing effluent limitations for all point source discharges based on State water quality standards (e.g. waste load allocations). Any NPDES permit must ensure that State water quality standards are met at the edge of any applicable mixing zone.

Id. at 18. This guidance does not differentiate between individual and general permits. It recognizes the practice of using mixing zones, not just in individual permits, but also in general permits. The criterion is the same in both instances: the permit must assure that state water quality standards are met at the edge of applicable mixing zones. These statements make clear that the use of mixing zones is exactly the sort of fine tuning of general permit requirements contemplated when EPA differentiated "same" from "identical" effluent limitations *Id.* at 13-14.

The proposed variation in limits for existing facilities in the Proposed Permit also results, in part, from Alaska's water quality standards, which provide that mixing zones must be "as small as practicable." ADEC has interpreted this provision as disfavoring single-size mixing zones for all facilities covered by a general permit. Instead, ADEC's draft 401 certification for the Proposed Permit sets different mixing zones for each existing facility, and at each facility for individual pollutants, on a case-by-case basis. This variation in mixing zone sizes, along with variability in the effluent from the individual facilities, drives the variation in effluent limits on sanitary and produced water discharges. If it were not for the "as small as practicable" requirement, a single effluent limitation and single mixing zone size could be set for all facilities. However, for most facilities the effluent limit would necessarily be higher, and the mixing zone larger, than what has been proposed, because they would be driven by the highest effluent concentrations among the various facilities, particularly for produced water. Thus, the variation in effluent limitations and mixing zones not only results in compliance with Alaska's requirement that mixing zones be as small as practicable, but also produces more stringent effluent limitations than would otherwise be the case for a number of facilities.

Response

Thank you for your comment.

Comment ID CI-127.044

The Proposed Permit complies with antidegradation and anti-backsliding policies. The majority of mixing zones requested in the current mixing zone application (Parametrix 2005) are, where comparable, larger than the existing mixing zones. This trend could lead to the errant presumption of backsliding. According to 18 AAC 70.015, "it is the state's antidegradation policy that ... existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected." Restrictions on backsliding are also addressed at the federal level in Clean Water Act Section 402(0) and 40 CFR 122.44(1)(1). Federal statutes address circumstances under which less stringent-than-previous limits, and by association, mixing zones, are not considered backsliding. As discussed below, several key points support the position that larger mixing zones do not necessarily conflict with protecting and maintaining existing water quality and use.

1. Mixing distance increase due to alternate current speed data interpretation does not conflict with antidegradation or anti-backsliding policies.

As discussed above in Section 5, the 90th percentile current speed was used to evaluate data for the mixing zone application. Note that this 90th percentile current speed is more than double the 90th percentile speed that was used in modeling for the Existing Permit. Although Parametrix recommended the 10th percentile (0.2 m/s) current as representative of critical conditions for evaluating chronic mixing zones (Parametrix 2004a,b,c,d), EPA felt that the 90th percentile (2.3 m/s) current was critical and ultimately required that all mixing zones be evaluated at that speed. Evaluating mixing zones based on the 90th percentile of a broader current speed range contributed significantly to the newly requested mixing zones being generally larger than the mixing zones granted in conjunction with the Existing Permit. Mixing distance increase due to modeling based on a wider range of current speed data does not conflict with antidegradation policy.

2. Mixing distance increase due to alternate model selection does not conflict with antidegradation or anti-backsliding policies.

As discussed in Section 5, the mixing zones for the Existing Permit were developed using the PLUMES model. By early 2004, EPA had expressed a preference for CORMIX for modeling the discharges covered under this permit application, as reflected in the consensus modeling approach outline (UOCC 2004). CORMIX (EPA 1996) and PLUMES (EPA 1994) are described in general terms as appropriate for the types of discharge situations depicted in the current mixing zone application (Parametrix 2005); however, the CORMIX model employs a different approach for predicting dilution than the PLUMES model. Consequently, CORMIX predictions rarely match PLUMES predictions for a given set of model input data. The presently requested mixing zones (modeled with CORMIX) would be expected to differ from the existing mixing zones (modeled with PLUMES) even if model inputs (i.e. current speed, produced water discharge rate) were identical. For that matter, the mixing zones would most likely be different if modeled now with Visual PLUMES (Frick et al. 2001) using the Existing Permit input data.

Visual PLUMES Windows-based program has replaced the DOS-based PLUMES model used previously. It is not likely that Visual PLUMES predictions would match the old DOS-based results. As for almost any computer software, new versions and patches for dilution models are disseminated from time to time. For instance, the CORMIX model was updated after the original mixing zone

application (Parametrix 2004e) was submitted. Modeling for the application revisions (Parametrix 2005) was performed using the updated version.

Dilution prediction, whether based on modeling, dye studies, or laboratory studies, is not an exact science (Davis 1999). Differences between CORMIX and PLUMES predictions for a given discharge, while perhaps troubling to the uninitiated, are inevitable given differences in the models and the inexact nature of dilution prediction in general. Modeling is a reasonable and necessary approach for calculating dilution from remote, deeply submerged outfalls in a turbid, turbulent receiving water body such as Cook Inlet. Although it would be pointless to try to establish a trend by systematically comparing CORMIX and PLUMES predictions for the same discharges, there is undoubtedly some extent to which the presently requested mixing zones differ from those granted pursuant to the Existing Permit due to the switch from PLUMES to CORMIX. Mixing distance increase due to modeling with CORMIX rather than PLUMES does not conflict with antidegradation policy.

3. Mixing distance increase due to a change in effluent data interpretation does not conflict with anti-degradation or anti-backsliding policies.

As discussed in Section 5, mixing distances in the pending mixing zone application (Parametrix 2005) are based on reasonable maximum concentrations (RMC). RMC are estimated effluent concentrations derived statistically from Facility data using EPA guidelines (EPA 1991) designed to account for uncertainty due to data variability. The mixing zones in the Existing Permit were developed using measured maximum concentrations, rather than RMC. The RMCs calculated for the pending application ranged from 1.2 to 13.2 times higher than measured maximum concentrations, compared to effluent data reported during the Existing Permit period.

The mixing zones requested in the pending application were modeled based on RMC rather than measured maximums. This resulted in larger mixing zones, when compared to the Existing Permit, but the proposed mixing zones still are calculated to provide for dilution to water quality standards should discharge at the RMC occur under critical mixing conditions. If the same RMC discharge rates had been used in setting the mixing zones associated with the Existing Permit, they would have been larger as well. Modeling mixing zones based on the RMC (like in the current application) facilitates consistency of mixing zones granted by ADEC and effluent limitations set by EPA, and anticipates changes that will occur in discharges from the facilities over the life of the permit and in subsequent years, due to changing oil reservoir dynamics. Mixing distance increase due to modeling based on RMC rather than measured maximum concentration does not conflict with anti-degradation policy.

4. Increase in mixing distance due to increased volume of produced water does not conflict with antidegradation or anti-backsliding policies.

Produced water is extracted from the oil-bearing strata along with the oil. As oil fields age, the ratio between hydrocarbons and produced water changes: the water percentage increases. This is an unavoidable consequence of the maturing of the field. The existing Cook Inlet platforms are producing oil from mature reservoirs. The percentage of water produced from the wells has steadily increased since the Existing Permit was issued. Indeed, increasing production of produced water contributed to the decisions to cease waterflood operations at some platforms and to cease production entirely at some platforms during the Existing Permit term.

The pending mixing zone application anticipates a continuation of this trend. The produced water percentage is expected to continue to increase for most facilities. Anticipating this continuing increase is part of the reason for the difference between the measured concentrations used in modeling the Existing Permit and the RMCs used in modeling the pending application. Natural increases in the volume of water produced per unit of oil or gas constitutes the sort of change that is expressly excluded from anti-backsliding restrictions, because it is beyond the control of the permittees and has no reasonably available remedy.

(See Section 10: References, Section 7 References)

Response

Thank you for your comment.

Comment ID CI-127.045

Page 40 of the Fact Sheet, IV.C.3.b.i. Model Input Parameters states "The values used to develop the Proposed Permit's conditions are summarized below in Table 5." In fact, Table 5: CORMIX Input Conditions are not the basis for the permit conditions. The Table 5 input parameters are not consistent with those used by Parametrix in development of the modeling submitted to EPA and ADEC in the Mixing Zone Application and supplemental information. This modeling was completed by Parametrix on behalf of the Cook Inlet operators, verified by ADEC, and provided the basis for the permit limitations.

Response

Please reference the following in the Response to Comment Document:

Response # 112

Comment ID CI-127.046

Appendix A of the Fact Sheet summarizes, by facility, mixing zone dilution factors, effluent concentrations, concentrations at the edge of the mixing zone, reasonable potential concentrations, and chronic criteria (i.e., water quality standards). The information provided in Appendix A is not provided in the Proposed Permit and the purpose of Appendix A is never clearly defined. However, its presence in the fact sheet implies that it is the basis for the effluent limitations in the Proposed Permit. Further, the sources of the data and how other values were calculated are never explained. Accordingly, the appendix only serves to confuse the reader and the relationship between the information provided in Appendix A to the permit limitations provided in Appendix B of the Fact Sheet is unclear. In fact, there appears to be no relationship between the two.

Response

Please reference the following in the Response to Comment Document:

Response # 113

Comment ID CI-127.047

Page 40 of the Fact Sheet states, "However, according to EPA modeling, only ammonia, copper, total aromatic hydrocarbons, and total aqueous hydrocarbons have the potential to exceed water quality criteria outside the mixing zones." Modeling actually indicates there is no reasonable potential for any chemicals to exceed WQS outside the pending mixing zones based on the effluent limitations shown in Permit Table 7-B and Fact Sheet Appendix B. The Fact Sheet (at p. 37) incorrectly refers to effluent limits which are not in Fact Sheet Appendix A but rather Appendix B. EPA incorrectly states in the Fact Sheet (at p. 40) that ammonia, copper, TAI--I and TAqH have the potential to exceed WQS outside the pending mixing zones. There is in fact no reasonable potential for these or any chemicals to exceed WQS outside the pending mixing zones, which were sized to accommodate discharge at the correctly shown effluent limitations in Proposed Permit Table 7-B and Draft Fact Sheet Appendix B.

Response

Please reference the following in the Response to Comment Document:

Response # 114

Comment ID CI-127.048

The dilution factors provided in Appendix A are generally consistent with those provided in the mixing zone application, but this is never explained. Further, the human health-based dilution factors appear to be erroneous because they match the whole effluent toxicity (WET) dilution factors from the mixing zone application.

Response

Please reference the following in the Response to Comment Document:

Response # 115

Comment ID CI-127.049

Reasonable Potential Concentrations listed in Appendix A tables are approximately 2.1 times greater than the "Concentration at Mixing Zone Edge." Based on input from EPA, we understand the factor of 2.1 is from the EPA's Technical Support Document for Water Quality-based Toxics Control (TSD.) Specifically, the TSD provides long-term average (LTA) multipliers that can be used to calculate maximum daily limits (MDLs) and average monthly limits (MLs). The LTA multiplier, based on a default coefficient of variation (CV) of 0.6 and a 95th percentile occurrence probability, is 2.1. Use of this LTA multiplier based on a default CV of 0.6 is confusing and misleading because this approach was not used to derive the permit limitations provided in Appendix B of the Fact Sheet. First, use of the LTA multiplier is incorrect because LTAs were not first calculated in Appendix A - the LTA must first be calculated from the waste load allocation (WLA). The WLA is defined as the effluent concentration that would result in compliance with the WQS at the edge of the mixing zone. Second, it was not necessary to use a default CV of 0.6 for those parameters with a sample size greater than one and for which an actual CV is available.

The preferable approach for calculating reasonable potential maximum concentrations is to use the reasonable potential multiplying factors in Tables 3-1 and 3-2 in the TSD. This was the approach used in the mixing zone application and which also served as the basis for the permit limitations in the Proposed Permit. Overall, therefore, the reasonable potential concentrations in Appendix A are (1) calculated incorrectly and (2) are not consistent with the concentrations used as the basis for the permit limitations.

Response

Please reference the following in the Response to Comment Document:

Response # 116

Response # 117

Comment ID CI-127.050

In Table 10-2 of the Fact Sheet the TAqH and ammonia limitations are the same for the East Forelands Treatment Facility --- the TAqH limitation appears to have been entered into the table incorrectly. In addition to the above comments, all effluent concentrations and criteria in the Fact Sheet need to be verified relative to the effluent data provided in the mixing zone application and Alaska's WQS. Based on a partial review of the values provided in Appendix A, several incorrect values were identified or, in some cases, some chemicals were identified as "NA" when in fact data are available from the mixing zone application.

Response

Please reference the following in the Response to Comment Document:

Response # 118

Comment ID CI-127.051

Proposed Permit Page 1, 16. Discharge Descriptions

Discharge number 020 has been added to the permit for "Storm Water Runoff from Onshore Facilities." If, after reviewing comments provided later in this document, EPA elects to delete SWPPP requirements from this permit this discharge code should be deleted.

Response

EPA has removed the stormwater provisions and discharge number 020 from the final permit.

Comment ID CI-127.052

EPA's response to comments document prepared for the Existing Permit authorizes discharge of additional discharges not listed on Page 1 of the Proposed Permit. AOGA asks EPA to acknowledge that the following waste streams, which were addressed in EPA's Response to Comments for Existing Permit AKG 285000 (Response to Comments), continue to be authorized for discharge without specification of the location of discharge:

Numerous intermittent waste streams including:

- a. Uncontaminated freshwater: freshwater from the potable water tanks that is discharged during tank inspection or repair;
- b. Contaminated freshwater: freshwater that is discharged when low levels of pollutants such as sea water, fecal coliform, or other pollutants are accidentally introduced into the potable water tank during barge transport or storage; and freshwater that has been treated with chlorine to make it potable;
- c. Uncontaminated seawater: seawater which is discharged prior to tank cleaning, or discharged in order to minimize silt accumulation; and excess seawater associated with MSD operation;
- d. Vehicle wash water: wash water from vehicles used at the shore-based facilities which may contain low levels of oil and grease;
- e. Spill response equipment wash water: wash water used to clean spill response equipment, which is expected to contain low levels of oil and grease, and cleaners.

Response

Please reference the following in the Response to Comment Document:

Response # 119

Comment ID CI-127.053

AOGA supports Section II.C.4 in the Proposed Permit authorizing the discharge of treated groundwater contaminated solely by production-associated wastes when commingled with produced water prior to treatment. AOGA also supports Section II.G.5 authorizing the discharge of water generated during spill cleanup as a practical method to further promote remediation. Both of these authorized waste streams will be subject to produced water effluent limitations.

Response

Thank you for your comment.

Comment ID CI-127.054

Proposed Permit Page 7: Sources

Section I.A. states that the Proposed Permit authorizes discharges from exploration, development, and production activities under the Offshore and Coastal Subcategories of the Oil and Gas Extraction Point Source Category, 40 CFR Part 435, Subparts A and D. It goes on to state that the Proposed Permit prohibits discharges of produced water and drilling fluids and cuttings from new sources, and prohibits produced water discharges from exploratory facilities. As discussed above, in Section 1, and in more detail below in connection with the proposed limits on produced water and drilling discharges, these restrictions conflict with the effluent guidelines for both the Offshore and Coastal Subcategories, both of which would authorize produced water and drilling discharges from new sources. EPA has failed to identify a sufficient water quality-based reason to prohibit these discharges, and so must authorize them if the Proposed Permit is to be consistent with the effluent guidelines.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-127.055

Proposed Permit Page 7: Prohibited Area of Discharge

EPA proposes to expand the geographic restricted area in section C.3.b from 1,000 meters to 4,000 meters, prohibit discharge within 20 nautical miles of Sugarloaf Island, and reiterate ADNR mitigation measure 33 prohibitions. As discussed below, the arbitrary expansions of these prohibited discharge zones are unwarranted and unsupported, ineffective and costly, and prevent oil and gas extraction activities in these areas.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.056

The Proposed Permit contains some inconsistencies concerning the area covered by the EPA's proposed discharge zone expansions. Figure 1 on Page 10 of the Proposed Permit appears to match the description of the proposed expansions on Page 9 except that two new stipulations have been added under Geographic Restrictions (I.C.3(h) and I.C.3 (i)) at Page 9.

I.C.3(h) states "within 20 nautical miles of Sugarloaf Island as measured from centerpoint.. ..".

This statement is inconsistent with Figure 1. Portions of the proposed new area of coverage (pink color) fall within the 20 nautical mile (~23 statute mile) boundary. It is recommended that the Proposed New Area of Coverage on Figure 1 be modified to exclude the area within 20 nautical123 statute miles of Sugarloaf Island.

I.C.3(i) states "Within tracts identified in the Alaska Department of Natural Resources, Oil and Gas Division's Mitigation Measure Number 33."

This statement is inconsistent with Figure 1:

0 Figure 1 includes 4 tracts within the surface area restrictions west of Anchorage that are not on the current Mitigation Measure Number 33 list. These tracts are 538, 539, 542, and 543 which were listed on earlier versions of the Mitigation Measures Cook Inlet Areawide Oil and Gas Lease Sale 2005, but were dropped from the list on the current version (dated 4/4/2006).

0 Figure 1 shows two lease tracts in the eastern portion of the northernmost section of the surface access restriction area that are not tracts included on the Mitigation Measures Number 33 list.

It is recommended at the Surface Access Restrictions Area on Figure 1 be modified to remove tracts 538, 539, 542 and 543 and remove the two unknown tracts in the northeast section. It is also recommended to list the complete reference and date of the ADNR O&G Division's Mitigation Measure Number 33 (i.e., Mitigation Measures Cook Inlet Areawide Oil and Gas Lease Sale 2005 dated 4/4/2006).

Response

Please reference the following in the Response to Comment Document:

Response # 120

Comment ID CI-127.057

The proposed permit expands the area where discharge is prohibited from the existing 1,000m buffer to a 4,000m buffer from specified natural features, but offers no basis or support for the change. In the Fact Sheet, the EPA asserts that the buffer zone is being expanded to "afford better protection of these sensitive areas," but offers no support for this assertion.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.058

As shown in the attached illustration (Map 1: Area Map Illustrating Areas Prohibited from Discharge) the proposed expansion effectively results in a prohibition of discharge from many currently operating facilities. In addition, the prohibited area in the proposed permit includes both Trading Bay Production Facility and Granite Point Tank Farm. Therefore, the eight platforms which send their fluids and product to these facilities would be effectively shutdown if this condition remains. All of these platforms are not individually in the buffer zone, but rely on the onshore facilities to handle their fluids. None could continue to operate if their shore-based support facilities are prohibited from discharging.

If EPA's intention was to allow discharges from existing facilities to continue into the new 4000 meter buffer zone, as shown in the attached illustration, then the proposed permit must expressly state this. If EPA had intended to prohibit discharges from these existing facilities, then it would have had to support that decision with an evaluation of the potential impact on oil and gas development, which it has not done here. EPA's Fact Sheet also states that EPA "knows of no plans for oil and gas facilities to operate in [the buffer zone] so the change should not have an impact," (Fact Sheet p. 14). However, the fact that EPA may not currently be aware of future oil and gas development plans in this area is inadequate justification to eliminate state and federal resources from potential development. Further, it is presumptuous for EPA to assume that future plans do not exist or are not likely to be developed.

Response

Please reference the following in the Response to Comment Document:

Response # 11

Response # 3

Comment ID CI-127.059

Expanding the buffer zone could also have significant and far-reaching effects on lease sales and the feasibility of development of those lease sites. The leasing mechanism for oil and gas provides the opportunity for regulators and resource managers to impose special conditions to ensure protection of environmental resources. Extensive environmental analysis and NEPA process prior to leasing have resulted in mitigation measures which impose additional restrictions to oil and gas development. For example, many areas are prohibited from development to ensure that sensitive species are protected. Leases are often not granted in sensitive areas or near communities and, if granted, are only allowed when impacts are mitigated by specific lease conditions. EPA and ADEC are among the many commenting agencies for environmental assessments and have contributed to the imposition of lease conditions.

Response

Thank you for your comment

Comment ID CI-127.060

The Existing Permit prohibits discharge to certain areas of Cook Inlet by designating depth and geographic restrictions in addition to lease mitigation measures. Natural features such as river deltas and legally designated specialty areas such as refuges and sanctuaries are protected by a 1,000m buffer from oil and gas discharges. Discharges are prohibited in shallow water and inter-tidal areas. These protections are sufficient.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.061

The Fact Sheet does not cite any evidence suggesting that lease mitigation measures and Existing Permit prohibitions have failed to protect sensitive areas in Cook Inlet. Sediment studies conducted by MMS and other studies cited in the environmental assessment and associated documents for recent leasing indicate that "the existing water and sediment quality of Cook Inlet and Shelikof Strait is good" and conditions indicate "an environment that generally IS uncontaminated" (OSC EIS/EA MMS 2003-055, p. III-23 and III -32).

Other evidence that the Cook Inlet environment is adequately protected is also cited in the Environmental Assessment, Biological Evaluation, Essential Fish Habitat Assessment, and Ocean Discharge Criteria Evaluation for the Cook Inlet NPDES Permit. Some examples are listed below:

Environmental Assessment:

*"The air quality in the project area is generally considered to be good." p. 3-6

*"The water quality of lower Cook Inlet generally is good." p. 3-20

*"Cook Inlet is a high-energy environment. Fast tidal currents and tremendous mixing produce rapid dispersion of soluble and particulate pollutants. For example, the turbidity caused by suspended particulate matter in drilling fluids and cuttings discharges is expected to be diluted to levels that are within the range associated with the variability of naturally occurring suspended particulate matter concentrations in Cook Inlet within a distance of between 100 and 200 meters from the discharge point from oil and gas facilities." p. 4-14.

Essential Fish Habitat Assessment:

*"In general, however, the concentration of suspended particulate matter in the water column is expected to be reduced to levels comparable to naturally occurring suspended particulate matter (1 to 50 ppm) within about 100 to 200 meters of the discharge site (MMS 2003)" p. 32

*"Parrish and Duke (1990) reviewed research findings on the toxicity of drilling fluids used in the Gulf of Mexico and concluded that available models suggest that discharges made from oil platforms in open, well-mixed waters deeper than about 20 m (66 ft) would result in no detectable acute effects, except within a few hundred meters of the point of discharge." P.32

*"In addition, discharged processed water has very low toxicity to marine organisms. Overall bioassay studies of the processed water have rated it 'slightly toxic' to 'practically nontoxic' (MMS 2003). Therefore, much of the water would have minimal direct toxic affects on EFH species or their habitat." P. 35

Biological Evaluation

*"The water quality of lower Cook Inlet generally is good." p. 4-2

*"The quantities of man-made substances discharged into Cook Inlet generally are less than discharged by the streams and rivers. For some of the manmade substances, the amounts discharged may be within the range associated with natural variability of stream and river discharges." P. 4-2

*"The toxicities of the produced waters ranged from 0.27 to 82.47 percent of the effluent; these concentrations equal 2,700 to 824,700 ppm. The classification of relative toxicity of chemicals to marine organisms, proposed by the IMCO/FAO/UNESCO/WHO, provides a system for assessing

relative toxicities. Concentrations of less than 2 ppm are very toxic; 1 to 100 ppm are toxic; 100 to 1,000 ppm are moderately toxic, 1,000 to 10,000 ppm are slightly toxic, and greater than 10,000 ppm are practically nontoxic. The produced waters sampled in the monitoring study ranged in toxicity from slightly toxic to practically nontoxic (MMS 2003)." P. 4-4

Ocean Discharge Criteria Evaluation:

*"This assessment also confirms the conclusion in the water quality section that mixing in the water column would reduce the toxicity of drilling fluids to levels that would not be harmful to organisms in the water column." P. 58.

*"...the routine activities associated with exploration in upper Cook Inlet have not had a documented effect on lower trophic-level organisms. It is expected that the routine activities associated with exploration, development, and production would be similar, and no measurable effects on the local populations are expected from these routine activities (MMS 2003). P 59.

Other Studies:

*OCS Study MMS 95-0009. Current Water Quality in Cook Inlet, Alaska. Chemical, physical, and bioassay results of the 1993 ENRI Cook Inlet water quality study that provides water and sediment petroleum hydrocarbons, naturally occurring radioactive materials, and trace metals results from stations in upper and lower Cook Inlet.

o "Examination of these data shows the inlet has very low concentrations of hydrocarbons and that sediments and water are generally nontoxic." P. 113.

o "Data obtained in this study of Cook Inlet demonstrate no correlation between bioassays and hydrocarbon concentrations that would suggest hydrocarbons are present in the ecosystem at concentrations sufficient to pose a concern for possible toxicity to marine organisms." P. 116.

o "...preliminary results show no immediate evidence of heavy metal pollution in Cook Inlet. There is, however, some evidence of elevated mercury levels in both water and sediment, especially in the upper inlet. This might be due to spring runoff and related in stream sediment loads, which would transport metals from the land. Hydrocarbon concentrations are very low in the sediment and water samples from all stations and are well below those found at historic oil spill sites. They are within the range of concentrations observed in unpolluted offshore and coastal environments in various parts of the world (Reish 1993), as well as those in other parts of Alaska." P. 117.

*OCS Study MMS 97-0015, Sediment Quality in Depositional Areas of Shelikof Strait and Outermost Cook Inlet. Final Literature Synthesis. 1998.

o "Tremendous quantities of suspended material are swept into the region from glacial runoff with associated metals and hydrocarbons. Municipal discharges and other permitted industrial discharges contribute important quantities of wastes over time to the immediate coastal areas and presumably to the area's deeper depositional locations. However, no evidence of the impact of these sources has been observed in the sub tidal sediments of Cook Inlet or Shelikof Strait as either far field or regional effects." P. vi.

*OCS Study MMS 99-0003, Sediment Quality in Depositional Areas of Shelikof Strait and Outermost Cook Inlet. Sediment Profile Imaging Report. 1998.

o "All the data from the profile images point to both high sediment quality and benthic habitat values at most of the area surveyed throughout the site. From the data available from SPI technology, there appeared to be no detectable adverse impacts to this area from any of the oil and gas development activities in the region." P. 36.

*OCS Study MMS 2000-024, Sediment Quality in Depositional Areas of Shelikof Strait and Outermost Cook Inlet. Final Report. 2001.

o "In summary, using multi-parameter measures to assess potential exposure and potential risk, the comprehensive findings of this two-year investigation indicate that the current concentrations of metals and PANS in the Shelikof Strait and Outermost Cook Inlet are neither linked to oil and gas development in the upper Cook Inlet, nor to the Exxon Valdez oil spill. The residues that are present, from a combination of natural sources --- river inputs, oil seepages, etc. - pose no significant risk to the biota and the benthic environment of outermost Cook Inlet and Shelikof Strait. The degree of current risk is indeed very low and is similar to non-impacted coastal regions in Alaska and elsewhere." P. ES-5.

*NFWF, 2005. Information, analysis, and data needs to support the recovery of beluga whales in Cook Inlet, Alaska. By LGL for NFWF and Unocal. March 2005.

o "Environmental contaminant levels in tissues collected from Cook Inlet belugas are generally lower than the concentrations seen in populations from more remote locations around the arctic." P. ii.

*OCS Study, 2001. MMS 2000-067. Persistent chlorinated compounds and elements in tissues of Cook Inlet beluga whales, *Delphinapterus leucas*. Banked by the Alaska Marine mammal Tissue Archival Project.

o Though the study does not directly call out impacts from oil and gas development; the majority of analytes are present at lower concentrations in Cook Inlet samples than in samples from Eastern Chukchi or Beaufort stocks.

*IJSGS, 1999. Water Quality Assessment of the Cook Inlet Basin, Alaska - Environmental Setting and Summary of Data through 1997.

o "Generally, the water quality of streams within the Cook Inlet study unit is very good and most streams contain water that is of suitable quality for domestic and industrial uses, propagation of fish and wildlife, and water-contact recreation. However, glacier-fed streams can require treatment to remove suspended sediment." "Most ground water is withdrawn from unconsolidated aquifers and is generally of good quality. However, ground water in most areas can naturally contain objectionable arsenic, iron, and hardness concentrations." Pgs. 54 & 55.

*Neff and Douglas, 1994. Petroleum hydrocarbons in the Water and Sediments of Upper Cook Inlet, Alaska, Near a Produced Water Outfall.

o "All these acute and chronic (marine water quality) criterion values are orders of magnitude higher than the concentrations of aromatic hydrocarbons in the receiving waters of the Trading Bay treated produced water outfall.. ..Therefore there is a very large margin of safety for marine organisms in upper Cook Inlet with respect to possible exposure to toxic concentrations of petroleum hydrocarbons from the Trading Bay treated produced water discharge. Marine organisms at the edge of the mixing zone for the outfall will not be affected in any way by hydrocarbons from the discharge." P 25.

*CIRCAC, 1996. Cook Inlet Environmental Monitoring Program, Final Report - 1995. Prepared by Kinetic Laboratories, Inc., with GERG, Texas A&M Univ. January 1996.

o "In general, data from the 1995 EMP indicated that low levels of hydrocarbons exist in sediments and biota at the study sites.. ..Fingerprints of sediment PAH results indicated a probable combination of petrogenic and pyrogenic sources...In addition, no toxicity was demonstrated at any of the 1995 EMP sites."

Additional Studies:

*CIRCAC, 1996. Data Summary, 1996 Lake Clark Bivalve Analyses. Prepared by Kinetic Laboratories, Inc., with GERG, Texas A&M Univ. August 1996.

*CIRCAC, 1996. Final Report for 1996 on the P450 Reporter Gene System Assay Results for Testing of Extracts of Sediments and Bivalve Tissue Collected from Cook Inlet, Alaska. Prepared by Columbia Analytical Services. September 18, 1996.

*CIRCAC, 1996. Long Term Inter-tidal Baseline Monitoring for Cook Inlet – Year 1, 1996. Draft Report. Prepared by Pentec Environmental, Inc. September 25, 1996.

*CIRCAC, 1997. Cook Inlet Shelikof Strait Project, Final Report - 1996. Prepared by Kinnetic Laboratories, Inc., with GERG, Texas A&M Univ. December 1997.

*CIRCAC, 1999. Technical Evaluation of the Environmental monitoring Program for Cook Inlet Regional Citizens Advisory Council. Prepared by Littoral Ecological & Environmental Services. January 23, 1999.

*CIRCAC, 2001. Final Report for CIRCAC Inter-tidal Reconnaissance Survey in Upper Cook Inlet. Prepared by Littoral Ecological & Environmental Services. September 10, 2001.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-127.062

The Fact Sheet incorrectly implies that any oil and gas resources located below the proposed buffer zone can be accessed by directional drilling. In fact, the EPA's proposed expansion of the buffer zone will effectively curtail any future oil and gas exploration and production activities in this area. The EPA's Fact Sheet states that "with modern drilling technologies, there should be no need to operate within the expanded buffer zone." (Fact Sheet, 1, 14.) Although the EPA does not specify what those "modern drilling technologies" are, AOGA assumes that the EPA is referring to directional or extended reach drilling ("ERD"). The EPA's statement demonstrates a lack of understanding of ERD and its limitations. While such technology exists, there are a number of reasons why its use is technically impracticable and commercially infeasible in the Cook Inlet.

The capabilities of ERD include vertical and horizontal well drilling, and can be used to reach subsurface targets that are long horizontal distances from the surface location. However, the effectiveness of ERD is largely structure-dependent. When applied to subsurface formations and structures that are large and have longer departures (such as those found on Alaska's North Slope) ERD can be effective in recovering oil and gas that is difficult to produce from a conventional well, due to poor reservoir characteristics or physical or environmental obstructions. However, as discussed below, when the subsurface structures and formations are shallow, narrow, with steep dips (such as those found in Cook Inlet) ERD is much less effective.

Shallow formations, such as those found in Cook Inlet, contain many coal seams that are naturally fractured and become unstable when drilled horizontally. When drilled, the higher the hole angle, the more unstable the coal seam, and this decreases the chance of successfully drilling a well and greatly increases costs. The fracturing causes cave-ins along the bore hole resulting in loss of and damage to equipment. Moreover, the shallow formations in Cook Inlet make it difficult to obtain the horizontal extension needed to drill using ERD technology. Shallow formations require much higher hole angles to achieve horizontal displacement to reach the subsurface drilling targets than deeper formations, and at shallow depths it is impossible to achieve the same substantial reach that is achieved for deeper targets. Basic physics plays an integral part in vertical drilling. With the higher hole angles inherent to horizontal drilling comes reduction in the beneficial effects of gravity, and the result is analogous to trying to push a rope across the floor of a room.

ERD wells increase volumes of drilling mud required and the added amount of waste that is generated must be disposed. Also, oil based drilling muds or water based muds with lubricant additives are required to successfully drill ERD wells and require special handling procedures and disposal by injection or shipment to approved disposal facilities out of state. The costs of these mud systems, with the special handling and disposal processes, greatly add to the overall costs of the well.

The use of ERD in Cook Inlet is also commercially infeasible. Cook Inlet does not have the infrastructure in place to support the drilling, completion and remedial well work associated with supporting a development center around ERD wells. ConocoPhillips experienced this first hand when it used ERD in Cook Inlet in connection with the Hansen well that was drilled in 2002. CPAI had to locate and import, among other things, longer reels of coil tubing, a top drive system and a special drilling rig in order to drill the ERD Hansen well. Not only are the logistics involved in obtaining ERD equipment for use in Cook Inlet difficult, there is also no guarantee that such equipment will be available when needed. In the end, the drilling, completion and disposal of waste in connection with

the Hansen well cost approximately \$30 million dollars. In addition, CPAI encountered many of the technical difficulties discussed above in using ERD in connection with the Hansen well.

Typically, the oil and gas formations located in Cook Inlet are relatively small, and, in most cases, do not justify the substantial expense and technical problems associated with the use of ERD in Cook Inlet. If ERD is the only type of drilling technology available in the expanded 4000 meter buffer zone, then oil and gas exploration and development in this area will be significantly impacted. The technical impracticality and commercial infeasibility associated with ERD in Cook Inlet provide further support for the retention of the existing buffer of 1000 meters.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.063

EPA's Federal Consistency Determination, submitted as required by the Alaska Coastal Management Program, asserts that the Proposed Permit is not subject to energy facility siting standards (1 IAAC 112.230 and Kenai CMP enforceable policies), as the permit does not regulate the placement of structures - only their discharges. However, prohibiting discharges in areas of Cook Inlet effectively prohibits exploration or development structures from being located in those areas, and accordingly, does influence Facility siting. The EPA apparently did not consider whether the expanded buffer zone is consistent with the first criteria of the statewide standard: "site facilities so as to minimize adverse environmental and social effects while satisfying industrial requirements." 11 AAC 112.230(a)(1). Moreover, adequate consideration was not given to the impact that expanding the buffer zone would have on industrial requirements. Because the buffer zone conflicts with those requirements, EPA should not have found it consistent with this statewide ACMP standard.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.064

EPA cannot justify the expansion in width of the buffer zones as necessary to meet any ACMP requirements. EPA's Federal Consistency Determination fails to identify any statewide standards or local coastal district enforceable policies that require expansion of the buffer zones. EPA's recognition that the discharges do not impact subsistence resources also negates EPA's claim that these additional restrictions are needed to respond to issues raised during traditional ecological knowledge interviews. The discussion of those interviews in the Federal Consistency Determination and the Fact Sheet demonstrate that questions and concerns were raised, but no impacts were identified through that process that would be mitigated by expanding buffer zones. EPA cannot rely on generalized statements of concern, backed by no specific allegations of impacts, to justify expanding the buffer zone areas that are closed to discharge.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.065

The Fact Sheet also states (p.11) that these restrictions are "necessary to prevent unreasonable degradation of the areas based on Ocean Discharge Criteria." The Fact Sheet fails to note that Ocean Discharge Criteria do not apply to coastal waters, and thus cannot be relied upon to justify buffer zones of any size in coastal waters. All waters north of a line drawn across Cook Inlet at the south end of Kalgin Island, which includes the waters around all of the existing facilities, are coastal waters, not subject to the Ocean Discharge Criteria. Moreover, in the waters south of Kalgin Island, where the proposed buffer is located in the territorial sea, EPA has not explained why it is necessary to increase the no discharge buffer by 3000 meters. EPA has failed to demonstrate how discharges that are subject to the Proposed Permit's limits on new facilities would cause unreasonable degradation in this portion of the territorial sea, under the criteria set out in 40 CFR 125.122.

Response

Please reference the following in the Response to Comment Document:

Response # 109

Response # 3

Comment ID CI-127.066

EPA has provided no basis for the expansion of the buffer zone to 4000m. For the reasons discussed above, AOGA asserts that the existing buffer distance of 1,000 m should be retained in the new permit.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-127.067

The Proposed Permit in section I.D.I states that applicants must submit a Notice of Intent for each facility and submit it at least 30 days prior to initiation of discharge. Section I.D.3 of the Proposed Permit states that existing dischargers that have previously applied for coverage under the reissued permit are authorized to discharge beginning the effective date of the reissued permit. However, nothing in I.D refers to the applications made by the existing facilities, which were permit applications rather than Notices of Intent. Section I.D.1 of the Existing Permit describes the duty of Permittees to reapply for authorization to discharge and states that ".4n NPDES permit application...constitutes a complete Notice of Intent." and addresses timely receipt qualifying the Permittee for an administrative extension. Section I.C.I and 2 of the Existing Permit provide automatic authorization for existing facilities. The Proposed Permit should similarly accommodate seamless continued operation for currently operating facilities. AOGA requests that EPA retain the Language in the Existing Permit sections I.C.1 and 2 and 1.D.1 as they relate to currently operating permittees.

Response

Please reference the following in the Response to Comment Document:

Response # 121

Comment ID CI-127.068

Section I.D.3 states, "This permit only authorizes the discharge of pollutants from waste streams that have been clearly identified in the NOI." Please note that this sentence is repeated on Page 15, II.A.2. Completion of the Form 3510-2C (Wastewater Discharge Information) which constitutes a complete Notice of Intent under the Existing Permit is based on best available information regarding pollutants which may be present in waste streams. AOGA requests that language contained in the Existing Permit at I.D.1 replace I.D.2-3 of the Proposed Permit, and that the above sentence be deleted on Page 15, II.A.2.

Response

EPA disareees with this comment. The language contained in Section I.D.3 and II.A.2 ij included in the final permit.

Comment ID CI-127.069

Section I.D.4 requires written notification 30 days prior to moving a mobile facility. This advance notice is impractical and should be consistent with the NO1 provision in EPA Region 6 (the Gulf of Mexico) which states, "Operators covered under the previous general permit are automatically extended permit coverage without taking any action and will retain the same NPDES permit number." It further provides, "Administratively complete NOIs will be granted permit coverage effective on midnight of the postmark date. . ." (See form in Section 11 of these comments.)

The requirement to notify EPA, in writing, 30 days prior to moving the facility and provide the latitude and longitude of the new location is both unreasonable and unrealistic in today's oil field environment. The reality of today's equipment and manpower shortages is that operators must have the flexibility to mobilize on short notice. In Southcentral Alaska, drilling crews are often available only on short notice when a rig working for another operator shuts down or the drilling season on the North Slope ends early. Also, it is often the case that the next drilling location will not be known until the previous drilling work is completed. The results of log and core analysis from one well often drive the placement of the following well location. The time between receipt of data analysis results from the previous well and the start of the next well can be much less then 30 days. Given the cost of standby time for mobile facilities and crews, this lag time is minimized as much as possible, which is entirely inconsistent with waiting 30 days to begin the next well.

Response

Please reference the following in the Response to Comment Document:

Response # 122

Comment ID CI-127.070

The Proposed Permit section I.E.1 allows only limited transfers of permit coverage for existing facilities, and prohibits permit transfers for new facilities. The Proposed Permit states that "This general permit only authorizes transfers for existing facilities located at a specific site or within the area specified in the original NOI." but then goes on to state "Discharge authorizations for a specific existing facility may not be transferred to a new facility at the same site." and that "Discharge authorization for new facilities ... may not be transferred." This section is confusing and EPA has failed to explain why the transfer provisions of the Proposed Permit should be more stringent than contemplated by 40 CFR 122.61, which governs permit transfers. The oil and gas industry regularly experiences corporate mergers, sales of assets, and company renaming. Nothing in this permit should suggest that facilities which have been operating for years under the Existing Permit and are permitted to discharge produced water and muds and cuttings would be prohibited from doing so if operated by a different company. There is no meaningful reason to prohibit transfers for new facilities. EPA's explanation for this provision appears at Page 20 of the Fact Sheet. No reasonable basis is given for refusing transfers of new facilities. Transfers should be allowed for all covered facilities with appropriate notification and certification that the new owner is prepared to comply with the permit. EPA should replace I.E.1 with the standard permit condition found in 40 CFR 122.41(1)(3).

Response

Please reference the following in the Response to Comment Document:

Response # 123

Comment ID CI-127.071

Language contained at I.F.1 in the Proposed Permit should be replaced with language from the Existing Permit at I.D.2.

Section I.F.1. says that the permittee must certify that "it is not subject to any pending enforcement actions including citizen suits brought under State or Federal laws" in a Notice of Termination submitted for this permit. It is unclear whether this requirement applies only to enforcement actions associated with this permit or ANY pending enforcement actions for any facility anywhere in the United States. For large companies, it might be difficult to certify to this requirement if it is not limited to enforcement actions associated with this NPDES permit.

Response

Please reference the following in the Response to Comment Document:

Response # 124

Response # 125

Comment ID CI-127.072

Page 20 of the Fact Sheet Section III.F provides no basis for requiring notice to EPA prior to cessation of discharges nor does it provide basis for reducing the notification time allowed for cessation of drilling operations. Language in the Fact Sheet Page 20 is inconsistent with the Proposed Permit language at Sections I.F.1 and 2 and with other sections. The Proposed Permit requires notification "prior to ceasing discharges," with final DMRs required within thirty days of notice for operations. Since the paragraph goes on to say that sending such a notice terminates coverage under the permit, this provision should require the notice be sent when a facility ceases discharges, rather than before it ceases. Predicting the precise date that discharges will cease during a complex facility shutdown to ensure DMR data will be complete and available within 30 days is unnecessarily complicated.

Response

Please reference the following in the Response to Comment Document:
Response # 124

Comment ID CI-127.073

Section I.F.2 should be deleted in its entirety. This permit does not regulate well operations or drilling, only the associated discharges. This notification is to include the end-of-well (EOW) report, even though the EOW report is not due until 90 days from well completion (Section II.B.4.b). Paragraph I.F.2 should be deleted as duplicative of and inconsistent with II.B.4.b.

Response

Please reference the following in the Response to Comment Document:
Response # 126

Comment ID CI-127.074

Section II.A.3. states, "The permittee must collect all effluent samples from the effluent stream of each discharge after the last treatment unit prior to discharge into the receiving waters." This requirement is appropriate and this principle should be carried forward throughout the document, but unfortunately, is contradicted elsewhere in the Proposed Permit where samples are required to be collected prior to commingling, which equates to collection prior to treatment.

Response

Please reference the following in the Response to Comment Document:
Response # 127

Comment ID CI-127.075

Section II.A.6 states, "'TIC permittee must minimize the discharge of surfactants, dispersants, and detergents...This restriction applies to tank cleaning and other operations that do not directly involve the safety of workers. ... The permittee must report all discharge or (sic) surfactants, dispersants, and detergents in accordance with Section VIII of this permit."

This requirement is unreasonably vague, in that it provides no criteria beyond "minimize discharge." It is a subjective standard, inviting confusion and injecting unnecessary uncertainty into permit compliance. It also is unnecessarily duplicative of II.A.5, which provides an objective limit on such discharges ("no visible foam"). It is unclear what aspect of Section VIII would apply. (See comments on section VIII later in this document.) Moreover one of the specific BMPs to be incorporated, found in Section V.D.5.c on page 64, requires the "controlled use of deck washdown detergents." Therefore, Section II.A.6 should be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 128

Comment ID CI-127.076

Section II.A.7 requires separate area drains for contaminated and uncontaminated waste streams. It is not possible to comply with this requirement on most, if not all, platforms. Platforms are designed to allow their major components to move around as operations change. The fixed plumbing required by this provision would significantly interfere with platform operations: increase costs, and is not possible to implement due to space limitations. Moreover, platform drains normally are not segregated because there is always the potential for oil and grease contamination. By using a single drain system, this wastewater stream is treated conservatively. Also, at many facilities the routine practice is to ship deck drainage to onshore facilities for treatment prior to discharge. Having outfall-specific conditions in the "Requirements for All Discharges" is inappropriate and contributes to the complexity and length of this permit. Therefore, Section II.A.7 should be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 129

Comment ID CI-127.077

AOGA supports this provision which does not require monitoring at unstaffed facilities.

Response

Thank you for your comment

Comment ID CI-127.078

Section II.A.II should be deleted in its entirety. Section II.A.II would set a new pH range limit and require monthly pH monitoring on all discharges. There is no precedent for this requirement in the Existing Permit, nor has EPA given any substantive reason for a pH limit on all discharges. It is not appropriate to impose an effluent limitation through a general provision that is not referenced in the sections of the permit that contain effluent limitations specific to discharges (II.B - ILF). Discharges 001 - 014 otherwise have no pH limit. Moreover, the proposed pH range in this provision is inconsistent with the pH range applicable to produced water discharges specified in condition II.G.I. It also would unnecessarily duplicate the pH limit on well treatment, completion, workover, and test fluids found in condition II.H.I.

Response

Please reference the following in the Response to Comment Document:

Response # 130

Comment ID CI-127.079

The proposed pH limit is not a technology-based requirement. The applicable effluent guidelines, 40 CFR 435, Subparts A and C, do not contain limits on the pH of any discharges from the covered facilities.(2) This is not a water quality-based limit. There is no documentation in the Fact Sheet, as required by 40 CFR 124.8 and 124.56, of how this limit was derived. Indeed, nowhere in the Fact Sheet does EPA attempt to justify imposing a pH limit on all discharges.

Footnotes

(2) Table 1 of the Fact Sheet for the proposed permit is incorrect in indicating that the pH limit on produced water is based on BCT.

Response

Please reference the following in the Response to Comment Document:

Response # 130

Comment ID CI-127.080

Furthermore, the monitoring required by this provision is excessively burdensome. The pH of produced water, the largest volume discharge, is required elsewhere in the permit. Thus, this provision only imposes monitoring on discharges with relatively insignificant volumes, a number of which are intermittent. Moreover, the pH limit and monitoring requirement ignores the characteristics of some permitted waste streams, such as drilling wastes.

Response

Please reference the following in the Response to Comment Document:

Response # 130

Comment ID CI-127.081

AOGA asks EPA to delete condition II.A.11 in its entirety, as unnecessary, not supported by legal authority, unreasonably burdensome, and inconsistent with the proposed limits on specific wastewater streams.

Response

Please reference the following in the Response to Comment Document:

Response # 130

Comment ID CI-127.082

The following sections should be deleted in entirety:

*Section II.A.10 requires monitoring for compliance with technology based limits, such as oil and grease concentration in produced water, prior to commingling.

*Section II.C.3 requires produced water monitoring for oil and grease prior to commingling with deck drainage or any other waste stream.

*Section II.C.3 requires monitoring deck drainage for no free oil prior to commingling.

EPA Coastal ELGs establish limits for Cook Inlet which are equal to those established for the offshore subcategory (61 FR 66086, December 16, 1996). As noted above, these requirements are not consistent with Section II.A.3

Section II.C.3 also is not consistent with EPA Coastal ELGs. It is not possible to meet this requirement when well treatment, workover, or completion fluids are added to the production stream offshore and shipped onshore for treatment. These provisions amount to requirements to monitor internal waste streams, without EPA having made the showing necessary under 40 CFR 122.45(h)(2) before imposing such a requirement. The permit insures that the most stringent effluent limitations apply to commingled waste streams. Therefore, Sections II.A.10 and II.C.3 should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 131

Comment ID CI-127.083

The Proposed Permit would significantly expand the use of visual monitoring

Fact Sheet Page 27 Section IV.B.3. Produced Water asserts, "Historically, the produced water oil and grease limits in the Existing Permit have been exceeded most often." EPA has not provided any documentation of this assertion. Further, company internal records do not support this statement.

Response

Please reference the following in the Response to Comment Document:

Response # 132

Comment ID CI-127.084

Opportunities for visual observations from platforms are severely limited by extreme tides, turbulent mixing, ice coverage and short daylight hours in the winter months, and winds and other weather conditions. Visual observation of discharge from outfalls for the onshore facilities is physically impossible, short of scheduling regular helicopter flights. The outfalls for the Trading Bay Production Facility (TBPF), Granite Point Tank Farm (GPTF), and East Forelands Production Facility are not visible from those facilities. For example, the TBPF outfall is approximately 2.3 miles from shore and 2.5 miles from the nearest platform.

The physical conditions in Cook Inlet render visual monitoring an inconsistent tool with inherent shortcomings. In evaluating the monitoring requirements of the Proposed Permit, it has been determined that on days when monitoring conditions are ideal, two and one half man hours of work would be required on each platform to meet the observing and reporting obligations. It is also quite possible that visual monitoring will be attempted during correct tidal and light conditions, but be of limited value due to metrological conditions, ice coverage, and sea state.

Response

Please reference the following in the Response to Comment Document:

Response # 133

Response # 237

Comment ID CI-127.085

The monitoring requirement in II.G.6.b serves no purpose and should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 201

Comment ID CI-127.086

The Proposed Permit (p. 44) contains the illogical requirement that time oil sheen is observed, a produced water sample must be collected and tested for oil and grease. First, this requirement should not apply if the source of the sheen is known and it is not attributed to produced water. For example, if there is a spill from a supply vessel, sheen could occur in the vicinity of a platform's produced water outfall, but there would be no reason to sample the produced water. Second, EPA states in the Fact Sheet at page 27 that "although there is no strict correlation between oil and grease concentration and the presence of sheen, the presence of sheen often indicates some problem with treatment ..." If there is no correlation between sheen and oil and grease concentrations, then the monitoring requirement in II.G.6.b serves no purpose and should be deleted. At current oil and grease limits of 29 mg/l monthly average and 42 mg/l daily maximum, sheening attributable to produced water has not been observed by Cook Inlet operators.

If EPA does not eliminate this useless requirement, then it must be made clear that NPDES mandated sampling or reporting is not required when the origin of an observed visual sheen is known not to be associated with a discharge (e.g. a spill from a supply vessel).

Response

Please reference the following in the Response to Comment Document:

Response # 133

Comment ID CI-127.087

EPA's Biological Evaluation (page 2-9) and Fact Sheet (page 27) state that visual sheen observation is not required when conditions, such as sea ice, make it difficult to see sheen. This reasonable provision is not consistently specified in the discussions of visual sheen in the Proposed Permit such as II.G.6.b. If visual sheen requirements are retained for those outfalls visible from facilities, then the provisional phrase "when conditions allow" should be included to address broken ice conditions and other conditions which make visual sheen observation impossible.

Response

Please reference the following in the Response to Comment Document:

Response # 133

Comment ID CI-127.088

EPA's Biological Evaluation (page 2-9) and Fact Sheet (page 27) state that visual sheen observation is not required when conditions, such as sea ice, make it difficult to see sheen. This reasonable provision is not consistently specified in the discussions of visual sheen in the Proposed Permit such as II.G.6.b. If visual sheen requirements are retained for those outfalls visible from facilities, then the provisional phrase "when conditions allow" should be included to address broken ice conditions and other conditions which make visual sheen observation impossible.

Response

Please reference the following in the Response to Comment Document:

Response # 133

Comment ID CI-127.089

Visual observations are of limited value in monitoring oil sheens, given the very limited time periods when such observations are feasible - slack tide during daylight hours. AOGA offers the following additional comments regarding specific visual monitoring provisions in the Proposed Permit:

1. Section II.A.12 is a generic requirement stating "The permittee shall conduct visual monitoring of the receiving water surface in the vicinity of the outfall(s) during daylight at a time of maximum estimated or measured discharge". It is not clear whether this is a distinct monitoring requirement in addition to those imposed on specific discharges. It should be deleted as redundant, unnecessary, and unreasonably burdensome.

If this condition is intended to supplement the visual monitoring requirements imposed elsewhere in the permit, it is both redundant and inconsistent with those requirements. Observations for sheen must be made at slack tide during daylight hours, whether or not that corresponds to maximum estimated discharge of produced water or deck drainage. For example, the Fact Sheet at Page 27 states produced water discharge "[o]bservations must be made during slack tide so that turbulence that is generally present during periods of high ambient velocity does not interfere with the ability to observe sheen." At the same time, this provision is duplicative of, and less specific than, footnote 1 of Table 4, regarding domestic wastewater.

Clearly, Section II.A.12 must be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 134

Comment ID CI-127.090

Section II.C.2 should be changed as follows: "The permittee must ensure that deck drainage contaminated with oil and grease is processed through an oil-water separator prior to discharge. [ONCE PER DISCHARGE EVENT, THE PERMITTEE MUST ... TO QUANTIFY POLYNUCLEAR AROMATIC HYDROCARBONS]" (3)

Footnotes

(3) Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 135

Comment ID CI-127.091

Under sanitary requirements for floating solids in Footnote #1 to Table 3-A on Page 31 visual observation is required. This language should be amended as follows, "The permittee must monitor by observing the surface of the receiving water in the vicinity of the outfall(s) during daylight at the time of maximum estimated discharge WHEN CONDITIONS PERMIT [FOR DOMESTIC WASTE, OBSERVATIONS MUST FOLLOW EITHER THE MORNING OR MIDDAY MEAL]". The last sentence should be removed, as this section does not apply to domestic wastewater.

****Data Entry Note Italicized text has been converted to ALL CAPS**

**** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].**

Response

Please reference the following in the Response to Comment Document:

Response # 136

Comment ID CI-127.092

Page 37, Condition II.G.1, Footnote #2 to Table 7-A on produced water, refers to section II.G.6.b (on Page 44), which requires visual monitoring once per day, which as discussed above, is not feasible for the onshore facilities. It also requires sampling in the event sheen is observed, which is inappropriate for reasons also described above. Footnote #2 should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 137

Comment ID CI-127.093

Section IL.A.14 should be modified as follows:

The discharge of maintenance waste such as removed paint and materials associated with surface preparation and coating applications is prohibited. Such materials shall be contained to the maximum extent practicable using TECHNIQUES, SUCH AS, vacuum abrasive blasting, covering grated areas with plywood, surrounding the area with canvas tarps and similar measures to capture as much material as practicable. All collected material shall BE DISPOSED APPROPRIATELY IN COMPLIANCE WITH APPLICABLE REGULATIONS. [DISPOSED OF AT AN APPROPRIATE SHORE BASED FACILITY].¹ Prior to conducting sandblasting or similar maintenance activities, operators shall develop and implement a Best management Practices (BMP) plan for the containment of waste materials.

Left unchanged, the Proposed Permit language appears to require vacuum abrasive blasting, covering grated areas with plywood, surrounding the area with canvas tarps, etc., in every blasting and painting situation. However, any one or all of these techniques may not be appropriate in every situation. As the technology improves there may be better techniques for capturing the waste. The blasting technology may improve, eliminating abrasive blasting all together and yet the permit would continue to require vacuum abrasive blasting. The suggested change allows for all these methods and for improvements in the practices and technologies without having to modify the permit each time something changes. It also provides enough flexibility for an operator to utilize the soon to be finalized industry recommended practice for containment of spent blast media and associated materials from surface preparation and coating operations. The Recommended Practice (RP) is being developed by the Offshore Operators' Committee (OOC) and the American Petroleum Institute (API). The draft has been reviewed and commented on by EPA Region 6 and the USCG. This draft RP was developed subsequent to meetings with the USCG, EPA and the MMS and designed to address their concerns while considering the safety of people performing the work.

****Data Entry Note Italicized text has been converted to ALL CAPS**

**** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].**

Response

Please reference the following in the Response to Comment Document:

Response # 138

Comment ID CI-127.094

AOGA also requests that the definition of "maintenance waste" be added to Appendix A, Definitions in order to clarify that the prohibition applies to maintenance waste as defined by the USCG at 33 C.F.R. 151.5. The definition makes clear that the prohibition applies to collected waste and not to every particle associated with blasting and painting operations, which would be impossible to meet and result in operators not being able to comply with USCG and MMS regulations requiring that the facilities be maintained. (See recommended language in our comments on the Definitions section of the Proposed Permit.)

Response

Please reference the following in the Response to Comment Document:

Response # 139

Comment ID CI-127.095

Tables setting forth Effluent Limitations and Monitoring requirements are included throughout Section II. These tables have inconsistent format and headings. Terms "Average Monthly Limit" and "Monthly Average Limit", for example, are used interchangeably but are not equivalent terms. Footnotes to the table are used to provide definitions rather than consolidating definitions in Appendix A. Units which are used in the limitations and monitoring requirements are frequently not defined (e.g. bbl which in the oil industry equates to 42 gallons but could mean 55 gallons in common vernacular.)

Response

Please reference the following in the Response to Comment Document:

Response # 140

Comment ID CI-127.096

AOGA requests that separate tables be used for restrictions specific to different discharge locations (e.g. federal or state waters) and the format of the tables be consistent throughout. With the expansion of permit coverage and additional restrictions on new facilities, it can be very difficult to summarize in one table all of the different effluent limitation and monitoring requirements. AOGA recommends that one table be added to each discharge in Section II that summarizes the effluent limitations and monitoring for that particular discharge that apply to all facilities regardless of discharge location; and include in separate tables, restrictions applicable to discharging the effluent either in federal or state waters or from a particular platform.

Good examples of this can be found in the Proposed Permit at:
o II.F Miscellaneous Discharges, Tables 5, 6-A, 6-8, and 6-C; and
o II.G Requirements for Produced Water, Tables 7-A and 7-B.

Areas that need to be improved are:

- o II.B Requirements for Drilling Fluids and Drill Cuttings, Table 1;
- o II.D Requirements for Sanitary Waste Water, Table 3-A

In both Tables 1 and 3-4, effluent limitations and monitoring requirements are either not clearly stated (non-aqueous fluids are not to be discharged except in federal or territorial waters); or are peppered with many footnotes. These problems could be remedied by separating requirements into different tables based on discharge location.

Response

Please reference the following in the Response to Comment Document:

Response # 140

Comment ID CI-127.097

There are inconsistencies in the table format and headings throughout the document which should be corrected. The following table headings (some of which are used in the Existing Permit, e.g. Reported Values) are recommended:

1. Effluent Characteristic
2. Effluent Limitation
 - a. Daily Maximum
 - b. Monthly Average
3. Monitoring Requirement
 - a. Measurement Frequency
 - b. Sample Type/Method
4. Reported Values

Response

Please reference the following in the Response to Comment Document:

Response # 140

Comment ID CI-127.098

The table located in section III.B.1 of the Existing Permit demonstrates a clear presentation of information, and has many examples of the benefits of having the Reported Values, including:

*The volume of footnotes is minimized. Actual permit sections are referenced in the table to direct the permittee to the appropriate information within the permit. AOGA recommends that wherever possible, footnotes should be converted to permit sections and the applicable sections referenced in the table.

*The Reported Values section is beneficial as it clearly states what information should be reported, and in some cases, specifies units; (a) for flow rate, the maximum hourly rate; (b) total volume, monthly total; (c) free oil, number of days sheen observed; (d) mercury and cadmium in barite, units of mg/kg of dry weight. AOGA recommends these changes be incorporated into the Proposed Permit.

Response

Thank you for your comment. The permit has been revised, as appropriate.

Comment ID CI-127.099

The discharge of drilling fluids and cuttings and produced water from new sources is authorized by the Effluent Limitation Guidelines.

Section II.B.1.a of the Proposed Permit would prohibit the discharge of drilling fluids and cuttings from new sources, as defined in Appendix A. The Fact Sheet contains no justification for this prohibition. Instead, it simply states, at page 17, that "Operators of New Sources who wish to obtain authorization to discharge drilling fluids, drill cuttings, or produced water, must seek coverage under an individual permit."

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 141

Comment ID CI-127.100

EPA acknowledges, at pp. 24-25 of the Fact Sheet, that it cannot impose more stringent limits than are found in the applicable effluent guidelines, such as discharge prohibitions, unless such limits are needed to ensure that State water quality standards are met. The applicable effluent guidelines authorize the discharge of drilling fluids and cuttings from New Sources in Cook Inlet. Footnote 1 to the table in 40 CFR 435.15, setting standards of performance for new sources in the Offshore Subcategory, provides: "All Alaskan facilities are subject to the drilling fluids and cuttings discharge standards for facilities located more than three miles offshore," which authorize such discharges. For New Sources in coastal waters, 40 CFR § 435.45 expressly differentiates between Cook Inlet facilities and sources in all coastal waters other than Cook Inlet. It authorizes the discharge of drilling fluids and cuttings from New Sources in coastal waters in Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 141

Comment ID CI-127.101

In the Response to Comments on the Existing Permit, p. 14, EPA states, "The technology-based Effluent Guidelines for the Coastal Oil & Gas industry were promulgated on December 16, 1996 and have been incorporated into the final permit. The Guidelines require zero discharge of produced water and muds & cuttings in all coastal waters ((except Cook Inlet)). The EPA rejected zero discharge for muds & cuttings in large part because the technology of grinding and injection has not been demonstrated to be available throughout Cook Inlet. The EPA rejected zero discharge of produced water because zero discharge is not economically achievable in Cook Inlet."

The question whether it was appropriate for EPA to set different standards for Cook Inlet facilities from those applicable to other facilities in coastal waters was tested in the courts when the effluent guidelines for the Coastal Subcategory were issued in 1996. In *Texas Oil & Gas association v. U.S.E.P.A.*, 161 F.3d 923 (5th Cir. 1998), the Fifth Circuit upheld EPA's decision to set different standards for Cook Inlet facilities. Now, in this permit, EPA is ignoring the effluent guidelines and attempting to prohibit the discharges expressly authorized by the effluent guidelines.

EPA cannot justify the prohibition on these discharges from New Sources as necessary to comply with Alaska's water quality standards or the Ocean Discharge Criteria. It has made no effort to show that either of those requirements warrants this prohibition. EPA cannot simply choose to prohibit a discharge. Its decision must be based on an applicable, technology-based standard or applicable water quality-based standards. Since neither prohibits the discharge of drilling fluids and cuttings from New Sources in Cook Inlet, the Proposed Permit should be revised to authorize such discharges.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 141

Comment ID CI-127.102

The Proposed Permit should allow discharge of Non-Aqueous Based Drilling Fluids on a case-by-case basis.

Response

Please reference the following in the Response to Comment Document:

Response # 142

Comment ID CI-127.103

Section II.B.1.b states that "discharge of non-aqueous drilling fluids is prohibited except for situations where such fluids adhere to drill cuttings at facilities located in the Territorial Seas and Federal Waters, as defined in Appendix A of this general permit." This statement contradicts the Coastal Oil & Gas Effluent Guidelines Appendix 1 which provides a procedure by which Cook Inlet operators may make a case-by-case demonstration that they qualify for an exemption from the "no discharge" requirement. This regulation should be reflected in this permit. The permit should provide that the discharge of NAF cuttings to coastal (or inland) waters may be approved by EPA on a case-by-case basis, and that any permittee seeking such approval must submit to EPA the information required by Appendix 1 of the Coastal Oil & Gas Effluent Guidelines.

Response

Please reference the following in the Response to Comment Document:

Response # 142

Comment ID CI-127.104

The following permit language is suggested to replace language in Section II.B.1 of the Proposed Permit:

((The discharge of non-aqueous based drilling fluids is prohibited except for: 1) situations where such fluids adhere to drill cuttings at facilities located in the Territorial Seas and Federal Waters as defined in Appendix A of this general permit; 2) situations where such fluids adhere to drill cuttings at facilities located in Coastal Waters as defined in Appendix A of this general permit and where EPA Region 10 has approved such discharge on a case-by-case basis. Any permittee seeking such approval must submit to EPA the information required in Appendix 1 of the Coastal Subcategory Effluent Limitations Guidelines (40 CFR Part 435, Subpart D).))

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 142

Comment ID CI-127.105

AOGA supports the authorization to continue discharge of drilling fluids and drill cuttings consistent with the effluent guidelines. There have been no substantive changes to geologic conditions or operating challenges since the extensive research and deliberations associated with development of the effluent guidelines. Moreover, EPA has acknowledged in the Fact Sheet that it cannot impose more stringent limitations than called for by the effluent guidelines, unless necessary to assure compliance with water quality standards. As discussed elsewhere in these comments, ADEC has proposed mixing zones for produced water discharges, and the mixing zone application demonstrates produced water discharges will comply with all applicable water quality standards at the edge of those proposed mixing zones.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 141

Comment ID CI-127.106

Table 1. Effluent Limitations and Monitoring Requirements for Drilling Fluids and Drill Cuttings (Discharge 001) Footnote #I has an incorrect reference to toxicity testing of suspended particulate phase. This footnote references 40 CFR Part 435, Subpart A, Appendix 1. This reference should be to 40 CFR Part 435, Subpart A, Appendix 2. Language in the Existing Permit at III.B.2.e.3 should be retained, "(Drilling Fluids Toxicity Test) using either the full or partial toxicity test. If the partial toxicity test shows a failure, however, all testing of future samples from that well shall be conducted using the full toxicity test method to determine the 96-hour LC50 value. Results of drilling fluid toxicity tests (in terms of pass/fail or 96-hr LC50 value) must be reported on the DMRs, and complete copies of the test reports must be attached to the DMR." This language was added to the Existing Permit in response to comments regarding costs of WET testing, and should be retained.

Response

Please reference the following in the Response to Comment Document:

Response # 143

Response # 144

Comment ID CI-127.107

Language contained in the Existing Permit at III.B.2.e.1 states, "If no mineral oil is used... This sample can also serve as the monthly monitoring sample." Language should be added as a new Footnote to the Measurement Frequency column requirement, "Monthly and End of Well" as follows: ((“At the end-of-well, a sample must be collected for toxicity testing. This sample can also serve as the monthly monitoring sample.”))

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 145

Comment ID CI-127.108

II.B.3.b. should be corrected to allow 90 days for reporting to comport with the End-of-well requirements. "Residual mineral oil concentration in the discharged mud must not exceed 2% volume/volume (API Recommended Practice 13-2, 1990). The permittee must report the following information [WITHIN 60 DAYS OF THE DISCHARGE IF DRILLING MUD CONTAINING RESIDUAL MINERAL OIL PILL (AFTER PILL AND BUFFER REMOVAL) IS DISCHARGED:] ((in the end-of-well report))."

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 146

Comment ID CI-127.109

II.B.3.b.ii contains a typographical error which should be corrected. "results of the Drilling Fluids Toxicity Test on samples of the mud before each pill is added and after removal of each pill and buffer (taken when residual mineral oil pill concentration is expected to ((be)) greatest);

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 147

Comment ID CI-127.110

II.B.3.b.ii

Footnote #2 references II.B.4.a which is a section on maintaining chemical inventory records is not appropriate to this table. The reference should be corrected to cite II.B.4.b End-of-Well Reports.

Response

Please reference the following in the Response to Comment Document:

Response # 148

Comment ID CI-127.111

II.B.3.b.ii

Footnote #3 is inappropriately applied to Free Oil effluent limitations for water-based and non-aqueous fluids. It should be deleted from those sections. Additionally, the sample type for Free Oil for water-based fluids and cuttings should be grab not visual, since it is a static sheen test.

Response

Please reference the following in the Response to Comment Document:

Response # 149

Response # 150

Comment ID CI-127.112

II.B.3.b.ii

Mercury and Cadmium limits reference Footnote #5 which requires sampling for every well and is inconsistent with requirements that appear later in the permit and should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 151

Comment ID CI-127.113

II.B.3.b.ii

Footnote #5 states that if the same barite is used for subsequent wells, the permittee may submit the same analysis for those subsequent wells. However, on page 25, Section 4.f.ii. the Proposed Permit states "if more than one well is drilled at a site, new analyses are not required for subsequent wells if no new supplies of barite have been received ...". The word site should be removed. The same barite is often transported to a different site and should not be required to be re-tested.

Response

Please reference the following in the Response to Comment Document:

Response # 151

Comment ID CI-127.114

II.B.3.b.ii

Also, in Section 4.f.ii. the analysis is not required to be submitted. Rather, a statement on the monthly DMR that no new barite was received since the Last reported analysis is adequate. Footnote #5 should be amended as follows:

5. Dry weight in the stock barite. Analysis shall be conducted using EPA Methods 245.5 or 7471((, or procedures approved under 40 CFR 136 or approved in Alaska Standards)) [THE PERMITTEE SHALL ANALYZE ... THOSE SUBSEQUENT WELLS.]

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 151

Comment ID CI-127.115

II.B.3.b.ii

A footnote should not be used to define terms. AOGA requests Footnote # 6 to Table 1 be deleted and PAH be added to the Acronyms and Abbreviations list.

Response

Please reference the following in the Response to Comment Document:

Response # 152

Comment ID CI-127.116

Diesel oil is prohibited from discharge and a monitoring requirement of daily grab is imposed. Reference to Section II.B.4.c of the permit should be added to the table which will direct permittees to the additional information provided later in the permit about diesel oil.

Response

Please reference the following in the Response to Comment Document:

Response # 153

Comment ID CI-127.117

II.B.4.c

Footnote #10 contains a typographical error. It references Appendix A but should reference Appendix B.

Response

Please reference the following in the Response to Comment Document:

Response # 154

Comment ID CI-127.118

Permit limits for sediment toxicity and biodegradation tests with non-aqueous drilling fluids are expressed as ratios which are sensitive to test variability. This variability was shown in development work for the amended 2001 Offshore Effluent Guidelines to authorize discharge of non-aqueous fluids that adhere to drill cuttings. Some averaging of test results is appropriate as part of the calculations to determine compliance with sediment toxicity and biodegradation limits. The averaging procedure has been clarified for the General Permit for the Offshore Subcategory for the Western Portion of the Outer Continental Shelf of the Gulf of Mexico (See EPA Region 6 Letter of Clarification in Appendix C).

Response

Please reference the following in the Response to Comment Document:

Response # 155

Footnote 8 and Footnote 9 should be amended to add the following language:

((Results up to 3 tests may be averaged to determine compliance, using 2 samples from the same lot of stock fluids. Equivalent aliquots of one homogenized sample must be split by the laboratory (part 1A and part 1B) and tested separately if averaging is used. Permittees may show compliance based on test results from part 1A or from the rounded arithmetic average of the test results from part 1A and 1B. Permittees may also test the second sample for compliance with this limit. Where the second sample is analyzed, operators will determine compliance using the arithmetic average of the results from all 3 tests. Permit operators shall report the appropriate number on the DMR (i.e. aliquot 1A results, average of 1A and 1B results, or average of 3 results. With the DMR, the permittee must submit documentation showing how the number was calculated and all applicable test reports.))

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 155

Comment ID CI-127.120

Page 20

Footnote 10 should be amended to add the following language:

((Results of up to 3 tests may be averaged to determine compliance, using 2 grab samples collected no more than fifteen minutes apart. Equivalent aliquots of the first, homogenized sample must be split by the laboratory, (part 1A and part 1B) and tested separately if averaging is used. Permittees may show compliance based on test results from part 1A or from the rounded arithmetic average of the test results from part 1A and 1B. Permittees may also test the second sample for compliance with this limit. Where the second sample is analyzed, operators will determine compliance using the arithmetic average of the results from all 3 tests. Permit operators shall report the appropriate number on the DMR (i.e. aliquot 1A results, average of 1A and 1B results, or average of 3 results. With the DMR, the permittee must submit documentation showing how the number was calculated and all applicable test reports.))

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 155

Comment ID CI-127.121

SPP toxicity and sediment toxicity are parameters measured using the non-aqueous drilling fluids as a 'worst case' assessment of the environmental impact of cuttings discharged to the water column (SPP toxicity) and to the seabed (sediment toxicity). The sediment toxicity limits should be met "less than or equal to" not "less than" as specified. Section II.B.2 should be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 156

Comment ID CI-127.122

Section II.B.2 of the Proposed Permit states "The permittee is limited to drilling discharges from no more than five wells at a single drilling site. If a step-out or sidetracked well is drilled from a previously drilled well hole, the step-out well is considered a new well. Requests to discharge from more than five wells per site will be considered by the Director on a case-by-case basis. The permittee may only discharge from more than five wells upon approval by EPA."

As discussed previously, the applicable effluent guidelines authorize the discharge of drilling fluids and cuttings from New Sources in Cook Inlet. Footnote 1 to the table in 40 CFR 435.15, setting standards of performance for slew sources in the Offshore Subcategory, provides: "All Alaskan facilities are subject to the drilling fluids and cuttings discharge standards for facilities located more than three miles offshore," which authorize such discharges. For New Sources in coastal waters, 40 CFR 435.45 expressly differentiates between Cook Inlet facilities and sources in all coastal waters other than Cook Inlet. It authorizes the discharge of drilling fluids and cuttings from New Sources in coastal waters in Cook Inlet.

Thus, drilling discharges from exploration sites are also authorized. EPA has provided no justification to limit discharges from "no more than five wells." Therefore, section II.B.2 must be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 156

Comment ID CI-127.123

Should this section [II.B.2] be inappropriately retained, it should be corrected to specify that the 5-well limitation is intended to apply to ((exploratory)) facilities only. EPA's basis for this differentiation is illustrated in the Fact Sheet at Section C.3, albeit incorrectly. Section III.B.1. Footnote #2 to the Discharge 001 effluent limitations table in the Existing Permit does not restrict the number of development, redevelopment, or disposal well drilling discharges. We assume that is EPA's intent in the Proposed Permit as well.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 156

Comment ID CI-127.124

AOGA recommends that Sections II.B.3 and II.B.4 be deleted and replaced with language from the Existing Permit at III.B.1.a and III.B.2.a-d.

Response

Please reference the following in the Response to Comment Document:

Response # 157

Comment ID CI-127.125

AOGA supports the retention of language consistent with the Existing Permit on issues such as pill use, chemical inventories, diesel oil, and static sheen test. Training personnel to operate to a new permit is difficult and expensive. Conditions established in the Existing Permit should not be changed arbitrarily, particularly if no value is added by the change. EPA has not established foundation for requiring changes to reporting protocols which appear to have been modified solely to reflect convention in Region 6 rather than Region 10.

Response

Thank you for your comment.

Comment ID CI-127.126

AOGA opposes the prescriptive and expanded nature of End-of-Well requirements in Section II.B.4.b and the contradictions that result from poor editing. End-of-Well reports are now both required to be submitted with detailed chemical inventories and chemical inventories are required to be retained for 5 years available to EPA on request. Where these reports were once a summary of compliance demonstrations required for the permit, they are now a dissertation on the process of drilling the well. No basis has been demonstrated for this dramatic expansion of requirements.

Response

Please reference the following in the Response to Comment Document:

Response # 157

Comment ID CI-127.127

Redundant and inconsistent requirements are further illustrated regarding End-of-Well reports in Section I.F.2 which requires reports be submitted within 7 days of ceasing drilling operations. This conflicts with the more appropriate deadline of 90 days in Section II.B.4.b. End-of-well reports should be due no earlier than 90 days from ceasing drilling operations in order to provide adequate time to complete analyses and prepare the detailed reports.

As stated above, this section should be changed to retain language from the Existing Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 126

Response # 28

Comment ID CI-127.128

Section II.B.5 should be amended to retain language from the Existing Permit at III.B.3.

Response

Please reference the following in the Response to Comment Document:

Response # 158

Response # 3

Comment ID CI-127.129

Sections II.B.5.a - g require baseline environmental monitoring for all new facilities. Monitoring and studies required in Section III.B.3 of the Existing Permit apply only to exploratory drilling discharges within 4000m of sensitive areas. The Proposed Permit prohibits all discharges within 4000m of sensitive areas. Section II.8.5 also requires that fate and effects monitoring be performed for all new facilities. We presume, based on Section II.B.5.b, that this section is intended to apply only to new "exploratory" facilities; however, it is unclear.

Response

Please reference the following in the Response to Comment Document:

Response # 158

Response # 3

Comment ID CI-127.130

The Fact Sheet, Item 7 (Page 5) states that the Existing Permit's baseline study requirement is being "expanded" to include "new facilities." In fact, the baseline study requirement in the Existing Permit applies only to exploratory facilities within 4,000 meters of sensitive areas. The proposed language is unclear, but suggests that all facilities, without regard to location, are subject to baseline study requirements.

Response

Please reference the following in the Response to Comment Document:

Response # 159

Comment ID CI-127.131

Section IV.D.1 of the Fact Sheet (Page 46) cites the ocean discharge criteria as the driver to require "a full understanding of the potential impacts of permitted discharges" and, therefore, to extend "the monitoring requirement from the Existing Permit to include new facilities installed after the effective date of the Proposed Permit". However, Ocean discharge criteria are not applicable to all the areas addressed by this permit. Additionally, the environmental baseline study would only duplicate environmental studies and impact assessments which are required to be performed prior to leasing. The need to understand potential impacts has been the basis for a multitude of regulatory actions, NEPA actions, and field studies. Results of these studies, detailed in AOGA's comments, do not warrant evaluation of new facilities on a site-by-site basis.

Response

Please reference the following in the Response to Comment Document:

Response # 160

Comment ID CI-127.132

AOGA recommends that language in the Existing Permit at III.B.3 be retained, appropriately limiting the scope of this requirement.

Response

Please reference the following in the Response to Comment Document:

Response # 160

Comment ID CI-127.133

AOGA objects in other sections of these comments to the blanket prohibition of discharge within 4,000m of sensitive areas. If Section II.B.5.a, as written, is included in the new permit it should refer to "new exploratory facilities" both in the section heading and in the body of the requirement to be consistent with Section II.B.5.b.

Response

Please reference the following in the Response to Comment Document:

Response # 158

Response # 3

Comment ID CI-127.134

Furthermore, a fate and effects study of drilling fluids and cuttings discharged from new sources makes no sense unless EPA either corrects the language to state that this applies only to exploratory sources; or, more correctly, removes the prohibitions to discharging in Cook Inlet since the ELGs allow such discharges, and expansion of the buffer zone is unwarranted, arbitrary and capricious.

Response

Please reference the following in the Response to Comment Document:

Response # 158

Response # 3

Comment ID CI-127.135

Section II.B.4.c.i has a typographical error which should be corrected:

"i. Compliance with the limitation on diesel oil must be demonstrated by gas chromatography (GC) analysis of drilling [must] ((muds))..."

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 161

Comment ID CI-127.136

Language appears throughout the Proposed Permit which specifies a single test method for monitoring and studies, or references CFRs or state approved test methods. In some cases methods are cited which are obsolete and no longer provided by contract labs. In other sections, options are provided for alternative methods (e.g. state approved methods). In addition, EPA has discontinued listing the units for reporting monitoring results. Effluent limitation tables throughout the permit no longer have a column specifying the units. AOGA recommends that to ensure consistency of results while providing reasonable and practical flexibility EPA specify the reporting units for each monitoring parameter. (See previous discussion regarding table improvements.) Further, when specifying methods, the following language is recommended: "In addition to the procedures approved under 40 CFR 136 or approved in Alaska Standards the XXX method may be used for analysis."

Response

Please reference the following in the Response to Comment Document:

Response # 163

Comment ID CI-127.137

The proposed permit adds a requirement to quantify polynuclear aromatic hydrocarbons (PAH) in deck drainage that has been processed through an oil-water separator "once per discharge event" (Section II.C.2). For most platforms, discharges occur daily which means the deck drainage would have to be sampled and analyzed for TAH and TAqH daily. The volume of discharges ranges from about 1,000 to 5,000 gpd. This is a prohibitively onerous and expensive requirement for a low toxicity, small volume discharge. Even produced water discharges only have to be tested for TAH and TAqH monthly. This requirement should be dropped entirely.

See Visual Monitoring requirements section above regarding recommended deletion of Footnotes 1 and 2 to Table 2 and amended language to Section II.C.2.

Response

Please reference the following in the Response to Comment Document:

Response # 164

Comment ID CI-127.138

Deck Drainage should not be monitored prior to commingling and treatment. EPA developed an Offshore E1.G deck drainage limitation of no free oil. EPA selected the visual sheen test to monitor this. In the Response to Comments EPA clarified that "if deck drainage is commingled with produced water, then this discharge shall be considered produced water for monitoring purposes ... This modification clarifies that a static sheen test is not required if deck drainage is commingled with produced water ..."

Response

Please reference the following in the Response to Comment Document:

Response # 164

Comment ID CI-127.139

It is not practical to require testing of deck drainage prior to commingling and treatment (Section II.C.3). Monitoring following treatment is a fundamental principle of NPDES which should be consistently applied throughout the permit. The permit insures that the most stringent effluent limitation applies to commingled waste streams. Monitoring visual sheen on deck drainage prior to commingling with produced water provides no additional protection to the environment, since the deck drainage already undergoes treatment as part of the commingled waste stream prior to discharge and must meet discharge limits for the commingled effluent.

Response

Please reference the following in the Response to Comment Document:

Response # 165

Comment ID CI-127.140

Monitoring Frequency of Free Oil in Table 2 should be changed from "Daily" to "Monthly," with a provision for reduced monitoring based on compliance added.

Response

Please reference the following in the Response to Comment Document:

Response # 166

Comment ID CI-127.141

Footnote #3 is redundant to II.C.2 and should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 167

Comment ID CI-127.142

Footnote #5 to Table 2 is confusing and may not be noted in the table in the appropriate place. The requirement to provide an estimate of daily flow is either redundant to the table for those who estimate, or inappropriate for those who meter flow. This footnote is unnecessary and should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 168

Comment ID CI-127.143

WET testing of deck drainage was conducted in the first year of the Existing Permit. The Fact Sheet does not provide justification for the requirement in Table 2 to repeat this data collection, and the requirement should be eliminated. If the WET testing requirement is retained, the required toxicity test should be specified.

Response

Please reference the following in the Response to Comment Document:

Response # 169

Comment ID CI-127.144

Section II.C.3 Commingled Waste Streams states, "samples collected for compliance with the produced water oil and grease limits shall be taken prior to commingling the produced water stream with deck drainage or any other waste stream... Monitoring for compliance with the free oil prohibition must also be accomplished prior to commingling." As discussed in comments regarding Deck Drainage, it is impossible to comply with this condition. Gross fluids, including deck drainage, are routinely commingled on the platforms and shipped to onshore facilities for separation and treatment. EPA has previously determined in the Response to Comments and elsewhere throughout the Proposed Permit, that, "The EPA considers the oil and grease limitation for produced water to be more stringent control on deck drainage than the static sheen test . . . if workover, completion, well treatment or test fluids are mixed with produced water, then this discharge shall be considered produced water for monitoring purposes." It serves no purpose to sample waste streams prior to commingling or prior to treatment. Once commingled, the wastewater is treated and compliance with permit limits and water quality standards is confirmed through monitoring. Requiring that samples be collected prior to commingling and/or prior to treatment does not provide monitoring of the representative discharge as required.

Response

Please reference the following in the Response to Comment Document:

Response # 170

Comment ID CI-127.145

Section II.C.3. should be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 170

Comment ID CI-127.146

Analytical Methods should not be specified in the Proposed Permit. Section III.C.2 references an analytical method (EPA 610) which is no longer available for use by Cook Inlet operators to quantify PAH (HPLC instead of GC-MS). EPA Method 625 is currently used. Both EPA 610 and EPA 625 are promulgated under 40 CFR 136 as approved test methods for PAHs.

Response

Please reference the following in the Response to Comment Document:

Response # 171

Comment ID CI-127.147

It is problematic for the permit to specify analytical methods which are regularly updated by EPA themselves, or to eliminate the flexibility to choose other approved methods. Laboratories are required to implement improvements in technology and analytical methodology to be competitive, satisfy EPA requirements, reduce liability, and serve their clients. Freezing analytical technology at the point of permit issuance is difficult, costly, and impractical. Specifying certain method criteria may require permittees to use older methods which may not provide the most accurate sample data to best represent the effluent. Laboratories may no longer maintain quality assurance, equipment or procedures to conduct obsolete tests. Local laboratories may not have equipment and technology immediately available to use newer methods.

Response

Please reference the following in the Response to Comment Document:

Response # 171

Comment ID CI-127.148

AOGA requests that rather than specify the analytical method, EPA require that analyses be conducted by an EIA approved analytical method or to analytical methods specified in Alaska water quality standards. Language similar to that in the Proposed Permit at Section II.G. Footnote #1 to Table 7-B9 should be added to Section VIII.C which can then be referenced throughout the document as appropriate: "For analysis of Total Aromatic Hydrocarbons (TAH) and Total Aqueous Hydrocarbons (TAqH) all analytical requirements cited in the Alaska Standards, IS AAC 70.0209(b) are applicable". This approach is more appropriate. If methods are identified they should be those currently approved, consistent, and allow some flexibility to select an approved method if the method specified is not readily available.

Response

Please reference the following in the Response to Comment Document:

Response # 171

Comment ID CI-127.149

AOGA supports ADEC's decision to regulate sanitary discharges for all offshore facilities based on an upper total residual chlorine (TRC) limit of 13.35 mg/L. Since distributing the October 20, 2005 mixing zone application revisions, UOCC decided to upgrade to marine sanitation devices (MSDs) at Bruce, Baker and Dillon platforms.

Response

Thank you for your comment.

Comment ID CI-127.150

With MSDs at the UOCC and XTO Energy offshore facilities, it would be most appropriate to apply the 13.35 mg/L TRC limit uniformly. Although a lower TRC limit might be feasible for the Granite Point Platform, UOCC believes the 13.35 mg/L limit should be applied there as well due to the limited amount of TRC data available to support a possible lower limit. CPAI continues to believe the 13.35 mg/L limit is achievable at Tyonek A despite historical TRC concentrations up to 17.5 mg/L. In keeping with the consensus to regulate sanitary discharges on a generalized basis, the applicants propose to establish one mixing zone size, equally applicable to each platform and consistent with the 13.35 mg/L TRC limit.

Response

Please reference the following in the Response to Comment Document:

Response # 172

Comment ID CI-127.151

The second sentence of footnote 1 to Table 3 should be deleted. Table 3 applies to sanitary waste, and the sentence in question applies to domestic waste.

Response

Please reference the following in the Response to Comment Document:

Response # 136

Comment ID CI-127.152

AOGA supports Table 3 Footnote #4 which clarifies that the TSS limitation is a net value. Cook Inlet receives glacial till and has extreme tidal and current mixing resulting in high levels of naturally occurring suspended solids. TSS limitation as a net value is appropriate.

Response

Thank you for your comment.

Comment ID CI-127.153

Section II.D.2. and Section II.D.4, which apply to facilities in federal waters, require the permittee to conduct annual testing of the Marine Sanitation Device (MSD) and report the results of such testing on the December DMR. Manufacturer's instructions state that amperage should be close to 50 ADC to ensure that the unit is operating correctly. Operators take readings daily. Recommended maintenance includes the following:

- > Seawater Backflush (Daily)
- > Tank Blow Down (Daily)
- > Open Book Cell Cleaning (Weekly)
- > Book Cell Acid Clean (Monthly, but optional)

We have not been able to identify any other recommended testing, annual or otherwise. Stringent performance standards are required and monitored. Compliance with permit standards demonstrates the functionality of equipment. We are not aware of any other testing methodology available. Therefore, Section II.D.2 should be deleted in its entirety, and Section II.D.4 should be amended to strike the last sentence, [THE MSD SHALL BE TESTED YEARLY FOR PROPER OPERATION AND THE TEST RESULTS MAINTAINED FOR THREE YEARS AT THE FACILITY OR AT AN ALTERNATE SITE IF NOT PRACTICABLE.]

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 173

Comment ID CI-127.154

The first column in Table 4 is labeled "Discharge." This is not consistent with the other tables throughout the Proposed Permit. See AOGA's comments regarding Pages 15-55 of the Proposed Permit where recommended changes to table formats are provided.

Response

Please reference the following in the Response to Comment Document:

Response # 174

Comment ID CI-127.155

Footnote #1 to Table 4 should be in the "sample type" column, and, if retained, should apply to both of the visual sampling requirements: floating solids and foam. Concerns regarding the value and practicability of visual monitoring have been discussed earlier in these comments. AOGA recommends that visual monitoring requirements be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 175

Comment ID CI-127.156

Footnote # 2 to Table 4 and Section II.E.2 are redundant. Both address sampling requirements when domestic and sanitary waste is commingled. The same language is previously stated in Section II.D.3 and more appropriately belongs in the Sanitary Waste section. Therefore, both Footnote #2 and Section II.E.2 should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 176

Comment ID CI-127.157

Table 5 should be deleted in its entirety. Footnote #1 states, "Discharge is limited to those times that a visible sheen observation is possible unless the operator uses the static sheen method." These discharges cannot be limited to daylight hours at slack tide.

Response

Please reference the following in the Response to Comment Document:

Response # 177

Comment ID CI-127.158

Weekly monitoring can only be accomplished using visual monitoring during the summer. Thus, static sheen tests would be required to be conducted weekly for 10 different waste streams which may discharge at multiple locations on any given facility. Some of these, such as cement at the seafloor, cannot be monitored using the static sheen test. Therefore, AOGA recommends that Table 5 be deleted in its entirety and replaced with the requirements in the Existing Permit at Section III.E. miscellaneous Discharges (Discharges 005-014).

Response

Please reference the following in the Response to Comment Document:

Response # 177

Comment ID CI-127.159

The Proposed Permit requires (at II.F.2.a) a unique annual inventory for desalination unit waste water treatment chemicals by March 1 of the following calendar year which is one month earlier than chemical inventory reporting requirements for other outfalls. According to section II.H.3 of the Proposed Permit, the chemical inventory for workover, completion, and well treatment and test fluids is due within 90 days of the completion of the calendar year which is consistent with the Existing Permit. AOGA recommends that the 90-day timeframe be retained, and requests that for consistency, both chemical inventories be due within 90 days of completion of the calendar year.

Response

Please reference the following in the Response to Comment Document:

Response # 178

Comment ID CI-127.160

As allowed in Section III.E.3 of the Existing Permit, commingling of excess waterflood water with produced water to minimize line freezing should be authorized. Working in the Cook Inlet environment presents many significant operational challenges. EPA previously recognized the difficulty posed by keeping discharge flow lines operating during extreme cold temperatures:

Commingled Waste streams: If excess waterflood water is added to the produced water discharge in order to minimize the possibility of line freezing, then the discharge must be considered produced water for monitoring purposes. The estimated waterflood flow rate must be reported in the comment section of the DMR.

This language was added in EPA's Response to Comments (p. 52) and should be incorporated into the Proposed Permit as well. AOGA recommends the above language be added into a new paragraph designated Section II.F.2.c.

Response

Please reference the following in the Response to Comment Document:

Response # 179

Comment ID CI-127.161

Condition II.F.3 contains new limits on chemical additives used to treat seawater. The Fact Sheet explains that this condition is a technology-based limit, determined using "best professional judgment" (BPJ) because toxicity of these discharges is not addressed in the effluent guidelines. The Fact Sheet also makes clear that the reason for imposing this limit is the potential toxicity of the treatment chemicals. The proposed permit also contains condition II.F.4, which would impose new whole effluent toxicity (WET) limits and testing requirements for treated seawater. The Fact Sheet explains that this new limit also is a response to the potential toxicity of treatment chemicals, and is intended to assure compliance with Alaska's water quality standard for WET of 1.0 chronic toxic unit (see 18 AAC 70.030').

AOGA commented on the Existing Permit in opposition to frequent chemical inventory reporting and that the volume of miscellaneous discharges is minimal and does not represent a significant risk to the environment. The following are excerpts of EPA's response: "because there is little month to month variability in the chemicals used ... EPA has determined that annual, rather than monthly reporting is sufficient." "The flow estimation requirement for Part III.E., Miscellaneous Discharges, has been removed from the final permit. The EPA agrees that the discharge volumes of these waste streams are minimal, and do not present a significant risk to the environment. The EPA also agrees that the estimated flow volumes of these waste streams are not significant for the agency, as we have no current plans to develop additional monitoring requirements or effluent limitations for these waste streams." (Response to Comments, p. 12-13.)

Flow rates of miscellaneous discharges and associated chemical applications are essentially the same today as they were previously. Since the previous permit issuance in 1999, Best Management Practice plans (BMPs) have been developed and implemented. These BMPs provide for reviews of all treatment chemicals. Despite these facts, EPA has proposed new limits and monitoring requirements.

Response

Please reference the following in the Response to Comment Document:

Response # 180

Comment ID CI-127.162

Given the inclusion of the limits on treatment chemical concentrations (condition II.F.3), and particularly in light of the proposed mixing zones for these discharges, there is no reasonable potential for treated seawater discharges to cause toxicity at the edge of the proposed mixing zones, nor is there any value in requiring WET monitoring on treated seawater discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 180

Comment ID CI-127.163

Condition II.F.4 should be removed from the proposed permit. This is particularly true for treatment chemicals that are dosed intermittently. As the mixing analysis demonstrates, even a continuous discharge of water receiving continuous dosing would be diluted so rapidly that no creature would be exposed to discharge concentrations long enough to experience chronic toxicity.

Response

Please reference the following in the Response to Comment Document:

Response # 180

Comment ID CI-127.164

Some Cook Inlet platforms historically have added and continue to add EPA-approved commercial water treatment chemicals to sea water that is drawn from Cook Inlet for use in various processes on the facility. These chemicals prevent corrosion and biological organism growth within pipes and vessels (corrosion inhibitors, oxygen scavengers, and biocides) and enhance sand filter cleaning (surfactants). Some products are added to prevent biological organism growth in the well and formation and are only discharged inadvertently (e.g. treatment chemicals in excess waterflood). The potential impacts of most of these treatment chemicals have been evaluated, and maximum dosages have been identified by EPA for this use, as indicated in product registration labeling. Indeed, the proposed permit identifies such manufacturer's recommended maximum concentrations, which normally correspond to EPA product registration information, as one of the parameters for the technology-based limit on these additives. Some chemicals are added at extremely low doses continuously and others are dosed for very short periods of time every week or two.

A representative example of intermittent dosing would be the addition of 15 gallons of biocide over 4 hours every 2 weeks to an internal non-contact cooling water and waterflood system at the King Salmon Platform. This water system flows a total of 3,740,000 gallons of Cook Inlet intake water. Only a fraction of this water is ultimately discharged since its primary purpose is waterflood and most water is, therefore, directed downhole. The objective of treatment is to have all biocide reach the reservoir and not to be discharged with excess waterflood. Treated water that is inadvertently discharged could come from as many as four overboard locations and seven specialty valves (six of which could potentially discharge at 10,000 gpd or greater). All these discharge locations are either automatic valves that open as necessary to prevent conditions such as over pressuring, manual overboard valves that can be kept closed to prevent loss of expensive chemicals during treatment, or pressure safety devices that would not be expected to discharge under normal operations.

A representative example of continuous dosing would be the use of oxygen scavenger at the Anna Platform where six gallons of oxygen scavenger is added to a system flow rate of 540,000 gpd continuously. Treated water that is discharged comes from two overboard locations and one specialty valve which could potentially discharge at 10,000 gpd or greater. All these discharge locations are either automatic valves that open as necessary to prevent conditions such as over pressuring, manual overboard valves, or pressure safety devices that would not be expected to discharge under normal operations.

Details regarding dosing and chemical constituents have been provided to EPA in the course of permit renewal applications and modeling. Assumptions were defined in detail regarding estimated end-of-pipe concentrations.

The Existing Permit does not impose limits on treatment chemicals, but does require facilities to maintain an inventory of the types and quantities of chemicals used, and to report that information to EPA annually. Thus, EPA has available to it information on chemical usage since 1999.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.165

Alaska's water quality standards provide that a discharge may not impart chronic toxicity to aquatic organisms, expressed as 1.0 chronic toxicity unit, at or beyond any mixing zone boundary (18 AAC 70.0306). This is not an instantaneous standard. Alaska's regulations define a chronic toxic unit by reference to results observed during a test with a duration that generally is one tenth or more of the life span of the test organism (18 AAC 70.030(b)). It is appropriate under Alaska's water quality standards to evaluate compliance with a WET standard using shorter duration test methods, as an indicator of chronic toxicity. See 18 AAC 70.030(a), adopting EPA's Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Marine and Estuarine Organisms (1988). But it is important to remember that the assumption behind the test completed in a shorter time frame is that it is representative of conditions experienced over the longer time frame contemplated by the WET standard. The fact that WET compliance may be determined using tests completed in a relatively short period does not mean that EPA can discount variability in toxicity when determining whether a discharge has a reasonable potential to exceed Alaska's chronic WET standard.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.166

In this case, the proposed permit would require the following bioassays: (1) the topsmelt (*Atherinops affinis*); (2) a bivalve, either the Pacific oyster (*Crassostrea gigas*) or mussel (*Mytilus edulis*); and (3) an echinoderm, either the purple sea urchin (*Strongylocentrotus purpuratus*) or sand dollar (*Dendraster exentricus*). The topsmelt bioassay has a 7-day exposure duration and the endpoints are survival and growth (requiring three effluent samples), the bivalve bioassay is 48 hours and the endpoint is embryo development (requiring a single effluent sample), and the echinoderm bioassay is 40 minutes and the endpoint is fertilization (requiring a single effluent sample). All three species (fish, bivalve, echinoderm) must be tested once per year and the most sensitive species tested the other three quarters.

No WET Limit Is Needed For Treated Seawater Discharges. EPA's Fact Sheet contains no information suggesting that, when the BPJ limits are imposed on use of treatment chemicals, and when the proposed mixing zones are taken into account, these discharges would have a reasonable potential to exceed the State's chronic toxicity standard. Indeed, even without mixing zones, these discharges would not exceed the applicable water quality standard because of the very short duration of exposure that would be experienced by any aquatic life. Absent a showing of reasonable potential to exceed the applicable standard, there is no basis for imposing WET limits on the treated seawater discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.167

The mixing zone analysis demonstrates just how short any exposure would be. As part of their mixing zone application, the companies prepared an evaluation of the mixing distances for treated seawater discharges. There is no WET sampling data on these discharges, and no aquatic life criteria for most of the active ingredients contained in the treatment chemicals. As a result, there is no data expressing the toxicity of these discharges in toxic units. A surrogate had to be identified. The modeling contractor, Parametrix, used standard aquatic toxicity studies on the treatment chemicals – mainly information available from testing performed by EPA or the manufacturers --- to develop aquatic life toxicity thresholds, which Parametrix used to formulate hazard quotients (HQ). In most cases, Parametrix started with data that expressed toxicity as an LC-50 value, a common measure of toxicity, but different from the measure used in setting Alaska's WET standard. The resulting HQs are analogous to the aquatic life criteria found in Alaska's manual, but are not the same as the "toxicity units" (TU) used by the Alaska standard. It was, therefore, an error for EPA to treat HQs as numerically equivalent to TUs in setting limits for the existing facilities.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Response # 8

Comment ID CI-127.168

To estimate mixing distances and timing, end-of-pipe concentrations were compared to these aquatic life toxicity thresholds. Extensive modeling was performed including a modeling approach suggested by CORMIX author Robert Doneker and mutually agreed upon by EPA, ADEC, and Parametrix. Even though this conservative discharge modeling did not address in-line consumption of treatment chemicals, it resulted in extremely short periods of potential exposure after discharge. Conclusions from this work were summarized in Parametrix submittals as follows:

The generally low toxicity of these discharges, rapid mixing and absence of WQS seems to preclude the need for mixing zones or monitoring. Conservatism inherent in the toxicity analysis described ... tends to underscore this idea. ... The weight-of-evidence suggests that neither mixing zones nor monitoring would be appropriate for these discharges. Rather, current reporting practices should continue.

The modeling showed that distance within which discharges would be diluted to below the HQs is quite short. More importantly, when evaluating compliance with a chronic toxicity standard, the dilution occurs within minutes of the discharge. Thus, even though the HQs are not numerically equitable to "toxic unit" values, this exercise demonstrated that there is no potential for even floating organisms to be exposed to concentrations above the toxicity threshold long enough to experience chronic toxicity effects. There is no stationary aquatic life that is of concern located within the mixing zone areas, but even if there were, they would not be at risk either, because these are not constant discharges and turbulent Cook Inlet conditions rapidly move and disperse the discharges. EPA should have concluded, based on this modeling exercise and the technology-based limits imposed elsewhere in the permit, that these discharges have no reasonable potential to exceed Alaska's chronic toxicity standard.

This is particularly true for seawater that receives only intermittent treatment or is only periodically discharged.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.169

Hazard Quotients are not numerically equivalent to TUs. Despite concluding that neither mixing zones nor monitoring of miscellaneous discharges were needed, Parametrix (2005) modeled mixing zones at ADEC's urging, recognizing that EPA could still decide to assign effluent limitations. Lacking data to estimate TUC for miscellaneous discharges, mixing zones were modeled based on conservatively estimated end-of-pipe HQ for individual additives. The resulting analysis shows dilution rates, but not the toxicity of the discharges expressed as TUC. EPA incorrectly treated the estimated HQ for individual additives as if they were the TUC of the discharges, as shown by the numerical match between the whole effluent TUC limitations in draft permit Table 6-2 and the estimated HQ.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.170

If EPA wants to impose limits in the absence of WET data, it must make assumptions about discharge concentrations, and cannot rely on HQ, which are not equivalent to TUC.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.171

Section II.F.4. Table 6-C of the proposed permit lists facility-specific limits on WET for discharges to coastal waters. The toxic unit (TU) limits correspond with the maximum estimated hazard quotients (HQs) for chemical additives at each facility, as derived in Appendix B of the mixing zone application revisions. For several reasons, including the generally low toxicity of additives used, rapid mixing, absence of WQS, conservatism inherent in the evaluation, profound difficulties collecting representative samples and meeting holding time limitations, and the fact that additives are effectively regulated now without WET testing, Appendix B of the mixing zone application recommends against either mixing zones or WET limits for discharges with additives.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.172

The Fact Sheet (page 43) states, "The dilution factors are equivalent to the toxicity limits that are included in the permit for the existing facilities located in Coastal Waters." The HQs for individual chemical additives are not numerically equivalent to TUs. Thus, equating the HQs from the mixing zone application Appendix B to TU limits is not appropriate.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Comment ID CI-127.173

If EPA does not delete section II.F.4, as requested, then WET monitoring should be conducted for no more than one year to characterize treated seawater discharges, and no limits should be imposed by the permit. EPA does not have sufficient information to conclude that treated seawater discharges pose any sort of threat to the Cook Inlet environment. In fact, there is no reasonable basis to believe these discharges would exceed Alaska's toxicity water quality standard, for reasons described above. If EPA nevertheless insists on WET monitoring, it should only be done to collect information to determine whether to impose limits in the future, and not to enforce the proposed permits, which are at best speculative.

Response

Please reference the following in the Response to Comment Document:

Response # 182

Comment ID CI-127.174

Proposed sampling is unlikely to be representative of actual toxicity. Given the configuration of the platforms, this monitoring requirement is impractical, and unlikely to produce results representative of the actual exposure to these discharges that biota might experience in Cook Inlet. Many samples would need to be collected in line prior to discharge and therefore prior to the consumption of much of the toxicity of treatment chemicals. These samples would over-estimate toxicity and only verify the effectiveness of chemicals designed specifically as biocides. This shortcoming is not physically resolvable, due to the piping configuration of the platforms, which were not designed to accommodate sampling of each individual outfall.

Response

Please reference the following in the Response to Comment Document:

Response # 183

Comment ID CI-127.175

Page 50 of the Fact Sheet, Section V.A does not address the content of DEC's draft certification to EPA which also included "concerns about how representative sampling will be done" for miscellaneous discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Comment ID CI-127.176

If WET limits are retained, EPA should restrict the limits and monitoring to outfalls that have a monthly average discharge rate of 10,000 gallons per day or more. The 10,000 gallon threshold was the size cutoff for the modeling exercise on these discharges. Also, it should be clear that multiple discharge points are not aggregated for this purpose. Otherwise, the permit's discharge numbering system could require aggregation of the discharges from multiple points, such as all of the points discharging non-contact cooling water, or excess waterflood water. Also the threshold should be expressed as a monthly average flow rate to avoid sweeping in intermittent discharge points which should not be included under the requirement at all, even if this requirement remains. Pressure relief valves, for example, may have the potential to discharge more than 10,000 gallons per day, and may do so periodically, but these are not routine discharges, and are unlikely to produce toxic effects.

Response

Please reference the following in the Response to Comment Document:

Response # 184

Response # 4

Comment ID CI-127.177

Even with a 10,000 gallon per day monthly average flow rate threshold, this requirement would apply to a significant number of discharge points, including multiple points that discharge the same waste stream. Sampling multiple locations will be onerous. Accurately aggregating samples from different dilution levels would be difficult, at best. Installing sampling points and collecting samples which contain treatment chemicals when treatment is brief and discharges are intermittent and occur far from the point of dosing, are just a few of the challenges.

Clarifying the proposed permit to require WET testing of only those treated outfalls with flows of 10,000 gpd or greater will still result in a substantial number of samples and expense that far exceeds the value of the information gathered. Conservative modeling already demonstrates that mixing will occur very rapidly for these discharges and risk to aquatic life is minimal. As an example, the sampling burden to just one of the Cook Inlet operators, UOCC, would result in 17 sample locations for the currently operating platforms (Anna, Dolly Varden, Granite Point Platform, Grayling, King Salmon, Monopod, and Steelhead).

Response

Please reference the following in the Response to Comment Document:

Response # 184

Response # 185

Comment ID CI-127.178

Monitoring should be limited to "worst case" discharge points. If retained at all, WET tests should only be required for the first year for characterization purposes and should allow the identification of a single representative 'worst case' sampling location. One year of data with quarterly testing is more than sufficient to characterize the toxicities of the various discharges, (as per Section 3.3.3 of EPA's Technical Support Document for Water Quality-based Toxics Control) especially considering the data base that will result from the various facilities covered under this general permit. Because there are numerous outfall points and dosing rates and frequencies vary, a single worst case sample location should be identified for WET testing requirements that are retained.

Response

Please reference the following in the Response to Comment Document:

Response # 185

Comment ID CI-127.179

In the case of the UOCC facilities, a worst case sample approach could reduce the number of samples from 17 to 3. By identifying the sample locations which contain all the treatment chemicals used at any of the company's facilities in the highest concentration and then evaluating these samples, only the following 3 locations would need to be tested:

1. Anna waterflood at the surge vessel over flow which contains clarifier and oxygen scavenger,
2. Steelhead waterflood downstream of the charge pump which contains surfactant, biocide, flocculent, and oxygen scavenger, and
3. Granite Point Platform sanitary outfall just prior to discharge for dechlorination oxygen scavenger.

Response

Please reference the following in the Response to Comment Document:

Response # 185

Comment ID CI-127.180

An alternative sample approach could be used to identify "worst case" locations for all treatment chemicals at each facility. Using the UOCC example facilities, 8 sampling locations would be needed to represent all the treatment chemicals (Anna, Dolly Varden, Grayling, Monopod, Steelhead and King Salmon one location each, Granite Point Platform two locations).

Though still onerous and expensive, applying a worst case sampling approach would provide some relief from this unjustified requirement.

Response

Please reference the following in the Response to Comment Document:

Response # 185

Comment ID CI-127.181

EPA should clarify which discharges are subject to WET limits. Not all miscellaneous discharges involve chemically treated sea water. For example, excess cement is a miscellaneous discharge, but cannot feasibly be tested for toxicity because it solidifies prior to analysis. Therefore, miscellaneous discharges proposed to be included under this requirement should be clarified.

Response

Please reference the following in the Response to Comment Document:

Response # 186

Comment ID CI-127.182

EPA has not made provisions to reduce the frequency of WET monitoring of treated discharges, similar to reduced monitoring proposed for produced water discharges in section II.G.6.b, section III.A. As this is an insignificant discharge, it would be appropriate for EPA to provide for reduced monitoring frequency following WET tests showing compliance with the proposed limits.

Response

Please reference the following in the Response to Comment Document:

Response # 186

Response # 187

Comment ID CI-127.183

In the Response to Comments (p 46), EPA agreed "that utilizing flow volume to determine monitoring frequency is appropriate for the Cook Inlet permit ... For WET, annual monitoring is required at platforms which discharge less than 1 mgd, and quarterly monitoring is required for facilities that discharge greater than 1 mgd."

Section II.F.4 of the propose permit states: "Whole Effluent Toxicity testing shall be accomplished in accordance with the produced water monitoring requirements in Section III.A of this permit and the limits shown below in Table 6." Section II.F. applies to miscellaneous discharges, not produced water, and Section III.A is not exclusive to produced water. Therefore, delete the reference phrase "produced water monitoring requirements in".

Response

Please reference the following in the Response to Comment Document:

Response # 188

Comment ID CI-127.184

Section II.F.4 also states "The dilution factor calculated at the edge of the mixing zone is the Whole Effluent Toxicity Limit for those facilities." This is unclear. WET test results are reported in TUC (Toxicity Unit Chronic). The dilution factors listed in Tables 6 A-C are not WET limits. It appears that EPA intends the Toxic Units listed in these tables to represent limits, however, whether these are intended to represent daily maximum, monthly average or both is not stated. It is also unclear if the units are TUC or TUA. TUC is the standard unit for reporting WET results. AOGA requests that EPA clarify these suggested limits if this requirement is not deleted entirely as it should be. Further, units should be added to all limit tables throughout the document for clarity.

Response

Please reference the following in the Response to Comment Document:

Response # 189

Comment ID CI-127.185

If EPA continues to require WET testing of treated miscellaneous discharges, Section II.F should include a compliance schedule to allow for installation of sampling ports, procedure development, training and implementation.

Response

Please reference the following in the Response to Comment Document:

Response # 190

Comment ID CI-127.186

Production operations consist of the recovery of hydrocarbons from reservoirs. Initially, the reservoir produces mostly oil as the pore space is filled with 60-70% hydrocarbons and 30-40% water. As the reservoir fluids are produced over time, the reservoir pressure, the energy to lift the fluids to the surface, decreases. As the pressure decreases, the production rates also decrease. This type of recovery is known as primary recovery or primary depletion. Hydrocarbon recovery from primary depletion is typically 15-25% of the original oil in place.

To enhance the recovery from the reservoir, waterflooding, or secondary recovery is initiated. Waterflooding is one of the most common and efficient secondary recovery processes. Water is injected into the oil reservoir to increase reservoir pressure. As this water is forced into the oil reservoir, it spreads out from the injection wells and pushes some of the remaining oil toward the producing wells. Increasingly larger quantities of water will be produced with a corresponding decrease in the amount of oil. When it is no longer economical to produce these high water-ratio wells, the flood may be discontinued. Properly operated waterfloods should recover an additional 15% to 20% of the original oil in place.

Additional development wells will also increase the total fluid rates from the fields. UOCC has decided to take a look at a redevelopment strategy for the Cook Inlet oil fields that it operates. This process will involve the addition of new development wells and repair of existing wells. This process will take place over the next 3-4 years. As a result of this program, oil and water production rates will be substantially higher than the current rates.

UOCC's original application of August 25, 2003 was based on actual maximum recorded produced water flow rates. These rates were previously submitted to EPA in discharge monitoring reports (DMRs) and demonstrated an increase over the life of the Existing Permit. In the course of extensive discussions regarding the determination of smallest practicable mixing zones, both EPA and ADEC expressed a desire to anticipate the effect of future flow rate increases which could occur over the life of the renewed permit. As a result, UOCC was asked to provide a best estimate of the maximum produced water flow rates which could occur during the life of the renewed NPDES permit. To determine these projected maximum flows, UOCC had to make a series of assumptions addressing future capital investment, well maintenance, waterflood, and production rate targets. UOCC believes the assumptions made were reasonable to provide the best estimate of future flow rate increases. Conclusions are reflected in Parametrix' submittal of October 20, 2005.

The following assumptions were the basis for these flow rates.

1. A realistic level of new investment is projected. (This is difficult to predict in light of new ownership and does not necessarily mean that a commitment to drill has been made.)
2. Normal well maintenance will be performed.
3. No operational changes will be made to those facilities that can only ship produced water to shore (King Salmon, Dolly Varden, Monopod, Steelhead, and Grayling).
4. Currently operational waterflood will continue.
5. Production will be managed to maintain current production rates.
6. There will be no expansion of the facility capacity at TBPF.
7. Baker and Dillon historical high flow rates will not be exceeded for this permit period regardless of

any future decisions to resume operation of the facilities.

8. Granite Point Tank Farm discharge is the sum total of maximums for Anna, Bruce and Granite Point Platform and will only reach this maximum if all three facilities are shipping to shore at once.

Maximum anticipated flow rates were provided to EPA, and formed the basis for the mixing zone application (as revised) developed by Parametrix:

- > Anna 84,000 gpd
- > Bruce 25,200 gpd
- > Granite Point Platform 84,000 gpd
- > GPTP 193,200 gpd
- > Baker 45,000 gpd (same, includes sanitary)
- > Dillon 193,500 gpd (same, includes sanitary)
- > TBPB 8,400,000 gpd (perform modeling with and without diffuser)

AOGA supports EPA's decision to base this permit on maximum flow rates estimated for the permit term. This is consistent with EPA's Response to Comments where they state, "The final permit is designed to comply with technology-based requirements and state water quality standards which are based on regulating the concentration of pollutants in the discharge, not the total pollutant loading of the discharge. The permit therefore allows for an increase in volume of produced water over the life of a producing well. If an increase in volume occurs that results in a failure to meet state water quality standards, modification of the permit is authorized at 40 CFR 122.62(a)(2)."

The increase in the volume of produced water that is being discharged, both since the last time the permit was renewed, and expected to occur over the life of the permit, is the natural and unavoidable consequence of the aging of the oil fields. As this increase in volume of produced water is beyond the control of the companies, and is a material and substantial change from the facility conditions that existed the last time the permit was renewed, the resulting changes in permit limits and mixing zones are permissible under 40 CFR 122.44(1).). The resulting effluent limitations and mixing zones are consistent with Alaska's antidegradation standard and EPA's anti-backsliding requirement, as discussed earlier in these comments.

Response

Thank you for your comment.

Comment ID CI-127.187

Section II.G.1 states that produced water discharges from New Sources would not be authorized by the Proposed Permit. Such discharges are authorized by the applicable effluent guidelines, in 40 CFR 435.15 for discharges in the territorial seas and federal waters, and in 40 CFR 435.45 for discharges to coastal waters. For the same reasons discussed in connection with discharges of drilling fluids and cuttings, under section II.B.1.a of the Proposed Permit, the Proposed Permit should authorize the discharge of produced water from New Sources.

Response

Please reference the following in the Response to Comment Document:

Response # 191

Comment ID CI-127.188

AOGA requests that the definition of produced water in the Existing Permit be added to the definition section of the Proposed Permit to clarify that hydrotest water can be commingled and discharged with produced water. Hydrotest water consists of fresh or filtered Cook Inlet water used to perform hydrotests, and is commingled and discharged with produced water effluent. Any contamination of this fluid would be consistent with that found in produced water. The produced water limitations and monitoring requirements will apply to the combined waste stream. AOGA also requests modification of the definition of hydrotest water in Appendix A. (See comments on Appendix A, Definitions.)

Response

Please reference the following in the Response to Comment Document:

Response # 192

Response # 193

Comment ID CI-127.189

((Footnote #1 to Table 7-A)) requires samples for oil and grease to be taken prior to the addition of any seawater to the produced water waste stream. It is likely that this requirement stems from EPA's intent to prevent operators from adding seawater to waste water prior to discharge in order to meet technology-based limits such as oil and grease. Unfortunately, this footnote does not take into account that seawater is a component used in many activities that add value and insure efficient production and responsible operations. Sea water may be added to the well for purposes of workover, completion and well treatment. It is also used in hydrotesting pipelines and tanks as part of routine maintenance and integrity inspections.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 194

Comment ID CI-127.190

Seawater is added to produced fluids at or near the well head and prior to water treatment. It typically occurs offshore at the platforms prior to shipment of produced fluids to shore based facilities such as Granite Point Tank Farm (GPTF) and Trading Bay Production Facility (TBPF). It is impossible to sample produced fluids for oil and grease at TBPF and GPTF prior to commingling and would not provide any useful information if it could be done. Samples collected prior to seawater addition at the platform would likely contain high oil and grease content because the fluids at that stage have not entered the water treatment system. Samples would not be representative of discharges to Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 194

Comment ID CI-127.191

The first sentence of Footnote 1 of Table 7-A is consistent with language in the Existing Permit. This requirement to collect a grab or 24 hour composite consisting of 4 samples can be problematic when a sample bottle is broken in transit or otherwise unavailable to be analyzed. Language, as written, does not allow averaging of the remaining three samples but, rather, they must be reported as three individual grabs for the week, When calculating monthly average, this creates a disproportionate weighting to the week where the sample was lost. Samples collected within a 24-hour period should be eligible for arithmetic averaging.

Response

Please reference the following in the Response to Comment Document:

Response # 195

Comment ID CI-127.192

Table 7-A Footnote #1 should be modified to delete the last sentence, ["SAMPLES SHALL BE COLLECTED PRIOR TO THE ADDITION OF ANY SEAWATER TO THE PRODUCED WATER WASTE STREAM."]

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 195

Comment ID CI-127.193

AOGA supports the clarification provided by Table 7-A Footnote #3 since it clarifies the basis for determining flow rate. This footnote specifies that flow rate based monitoring is "based on the previous month's monthly average discharge rate".

Response

Thank you for your comment.

Comment ID CI-127.194

Footnote #1 to Table 7-8 conflicts with methods required in Sections III.D and II.C.2. AOGA supports the reference to 18 AAC 70.020(b) as the applicable standard for TAH and TAqH test methods, however these inconsistencies should be rectified.

Response

Please reference the following in the Response to Comment Document:

Response # 196

Comment ID CI-127.195

Section II.G.2 requires the installation of a diffuser at Trading Bay Production Facility within two years of the effective date of this permit. Page 37 of the Fact Sheet, Section IV.C.2.d states, "The operator has proposed a diffuser of approximately 100 meters in length." This statement is incorrect. UOCC researched the technical and economic factors for several diffuser lengths. In response to questions and requests for additional information, UOCC submitted a letter on May 18, 2005 to ADEC (copies provided to EPA) which stated that an SO meter diffuser was feasible for installation at TBPF.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.196

Several EPA documents associated with the permit erroneously state the diffuser is required because, "this discharge is in fairly shallow water and is much closer to sensitive areas than any other produced water discharge in Cook Inlet." in fact, TBPF discharges in 10 meters of water, 2.3 miles from shore, and is not the closest facility to the coast.

Response

The discussion of the diffuser in the EA has been revised to reflect that it is in 10 meters of water, 2.3 miles from shore.

In addition, please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.197

Modeling of the existing outfall configuration at TBPF, performed to EPA and ADEC specifications, demonstrates rapid dispersion of Cook Inlet discharges in times well below standards established for chronic and acute exposures. These exposure standards have been approved by both ADEC and EPA as protective. Additionally it has long been understood that high energy conditions in Cook Inlet are dramatically different than other receiving water bodies and that use of conventional models in this environment results in very conservative outcomes.

UOCC considered the possible operational, reliability and cost impacts of a diffuser redesign and identified several concerns. Modifying a diffuser to increase the discharge velocity increases system backpressure. The potential consequences of increased backpressure are the need for increased pumping horsepower and a resulting reduced flow output. Increasing volumes of produced water will compound the complications of increased backpressure.

Modifying subsurface piping in the strong currents of Cook Inlet is inherently complex and dangerous. Assuring that discharge ports remain free of fouling and blockage is also an important consideration.

UOCC has conducted preliminary engineering of the feasibility of diffuser redesign. Further refinement of costs based on engineering considerations resulted in a cost estimate of \$750,000 for installation without considering increased annual operating costs.

AOGA believes the administrative record and available independent, scientific data support issuance of a smallest practicable mixing zone for TBPF without a diffuser consistent with the modeling provided in UOCC's amended application for TBPF. The current speed assumptions made by Parametrix in this application are the most protective of Cook Inlet aquatic life and thus should be used in the department's mixing zone evaluation.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.198

ADEC is in the best position to evaluate impacts of discharges based on knowledge of local conditions, which are very diverse throughout Alaska. Diffusers have not been required previously. While installation of a diffuser at TBPF will improve mixing and reduce the distance from the outfall prior to the effluent achieving WQS, the very conservative nature of the model, coupled with the dynamic natural mixing in Cook Inlet calls into question the benefit associated with this costly requirement which EPA has imposed elsewhere to improve mixing in less dynamic environs such as the Gulf of Mexico.

It is not appropriate for EPA to require approval of the diffuser design. Section II.G.2 continues, "The operator shall submit the final diffuser design to EPA Region 10 for approval prior to construction." AOGA objects to EPA proposing to approve an engineering design for TBPF or for other facilities. It is the permittee's obligation to ensure that the diffuser, which will be designed based on conservative modeling completed using best available data, results in effluent quality which meets both end-of-pipe limits and Alaska WQS at the edge of the approved mixing zone. EPA does not have the technical expertise or the regulatory authority to become involved in actual plant process design or operating decisions. If EPA persists in asserting authority to approve engineering designs, they must specify what criteria are being used to evaluate the diffuser design.

AOGA suggests II.G.2 be amended as follows, "((Prior to construction,)) [T]he operator shall submit [THE FINAL DIFFUSER DESIGN TO EPA REGION 10 FOR APPROVAL].((modeling results to EPA Region 10 for the diffuser designed to demonstrate it will result in dispersion, consistent with the mixing zone size granted".))

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.199

Installation of sub-sea pipelines requires very specific construction details and implementation. There are few marine climates in the world that are similar to the conditions found in Cook Inlet with extreme tides and low visibility. UOCC has developed specific construction means to perform work in the Cook Inlet. Deviations from those methods or design could affect process conditions and safety of construction crews. UOCC has the experience and expertise to select the correct materials, design, and implement installation of a diffuser for the TRPF outfall line. In addition the Engineering and Construction group at UOCC currently has 3 mechanical engineers licensed in the State of Alaska.

ADEC, under authority of 18AAC 72.600, paragraph (c), will be given the required engineering documents for review. However, the means and methods of construction are the sole responsibility of UOCC. It is unclear what EPA would be reviewing for diffuser design.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.200

A compliance schedule is needed. EPA has allocated two years for installation of the diffuser, but has not indicated how compliance will be determined in the interim. Obviously, there are implications with meeting WQS and mixing zones. In order to allow time for engineering design, construction and installation, a compliance schedule must be incorporated into the Proposed Permit. As discussed in comments on the State's 401 Certification, it will also be necessary for ADEC to grant an interim mixing zone in order to meet WQS prior to installation of the diffuser.

A key constraint to developing a schedule is the short window for in-water work. Due to weather, daylight hours, and sea ice conditions, the optimal time for installation to begin is between June 1 and July 30. Diving windows are more limited and risk is increased in the later dive season which typically ends in September. Actual diving time will be coordinated within the monthly tidal cycles to further optimize installation during the longest slack or hold-over tide. Thus, in order to complete installation of the diffuser at optimal construction period final permitting must be in place by November prior to the start of construction. Some contingency should be included in any compliance schedule to avoid the need for an emergency or short-term amendment.

AOGA recommends that ETA incorporate language into the Proposed Permit to address the compliance concerns discussed above and also provide adequate time to safely install the diffuser at TBPI.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-127.201

Section II.G.3 perpetuates an error in the Existing Permit by stating "the Anna and Bruce platforms may route their produced water discharge to the East Foreland Production Facility for treatment and discharge". In fact, XTO Platforms A and C, and UOCC Platforms Baker and Dillon are the platforms that ship fluids to the East Forelands Production Facility (EFPF).

This section should be corrected to state, "the Anna and Bruce platforms may route their produced water discharge to the Granite Point Tank Farm, and Baker and Dillon platforms may route their produced water to the East Forelands Production Facility for treatment and discharge." Although the Baker and Dillon platforms are currently shut in, they could resume production in the future, and even if they don't, the pipelines will still have to be hydrostatically tested for DOT compliance, so there should be a mechanism to dispose of the hydrotest water or any "upset" water from these platforms at the EFPF.

Response

Please reference the following in the Response to Comment Document:

Response # 19

Comment ID CI-127.202

Additionally, it is unnecessary to require 24 hour notification of rerouting. Three platforms, Anna, Bruce and Granite Point, ship fluids to GPTF for additional treatment and discharge. However, these platforms are authorized to discharge produced water directly as well. Varying operational conditions dictate when produced water is routed to GPTF and when it is discharged directly from the platforms. Monitoring and effluent limits are in place to ensure that WQS are met. DMRs provide information on volumes and monitoring results monthly. These activities have not changed in 40 years. There is no basis or purpose for EPA to require notice. Therefore, in addition to making the correction noted above, Section II.G.3 should be amended to strike the following language, ["THE PERMITTEE MUST REPORT REROUTING BY TELEPHONE OR FACSIMILE TO EPA WITHIN 24 HOURS OF REROUTING, AND MUST PROVIDE ... THE PERMITTEE MUST CEASE REROUTING AS SOON AS POSSIBLE."]

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 20

Comment ID CI-127.203

The Fact Sheet, Section C (page 16) uses asterisks to denote those facilities authorized to discharge produced water under the Existing Permit. As explained above, historically, Granite Point Platform (GPP) shipped all of its fluids to GPTF for treatment and discharge via the GPTF outfall. However, equipment changes have been made to allow GPP to inject produced water. Oil and water are separated on the platform. Remaining fluids (oil and water) are shipped to GPTF where further treatment occurs: oil is shipped via the Cook Inlet Pipeline to Drift River Terminal and sold; small amounts of produced water are still discharged from the GPTF outfall. Thus, discharges of produced water generated from GPP have always been authorized.

Injection of produced water offshore is ongoing at Anna and GPP. Three platforms produce from the Granite Point Field: Anna, Bruce, and Granite Point. These three platforms were designed with water separation equipment offshore. Production from these platforms is typically about a 10% water cut; thus for every 9 barrels of oil, 1 barrel of water is produced. Therefore, for the total 3,200 barrels of oil produced per day, about 500-700 barrels of water must be disposed.

The Granite Point Field typically has a "tight formation" which requires high injection pressures to inject fluids. Reduced water volumes require significantly less horsepower and surface equipment for water injection.

Anna and Bruce platforms produce their wells using a "power oil lift mechanism" which requires separation of oil and water offshore in order to continue to operate the power oil pumps. Because a former, depleted producing well which would accept fluids due to available pore space previously filled by hydrocarbons became available on the Anna platform, injection of fluids into this well was approved by the Alaska Oil and Gas Conservation Commission (AOGCC). Thus UOCC recently has been able to inject produced water on the Anna Platform rather than discharge it. A suitable well is not available at this time for use on the Bruce Platform.

Granite Point Platform operates 3-phase oil, water, and gas separators, but cannot meet the oil pipeline specifications required to enter the Cook Inlet Pipeline without additional onshore treatment. GPP currently injects water which is separated offshore into a disposal well. Remaining fluids are shipped to GPTF for additional treatment, sale of the oil, and disposal of small amounts of produced water.

Offshore injection of produced water in Trading Bay Unit and Trading Bay Field is not feasible. The Trading Bay Unit/McArthur River Field is produced by four platforms: Dolly Varden, King Salmon, Steelhead, and Grayling. The nearby Trading Bay Field is produced by the Monopod Platform. All five of these platforms ship their fluids to TBPF and typically produce about a 90+% water cut. Thus for every 9 barrels of oil, 91 barrels of water are produced. High water volumes require significant horsepower and surface equipment for water injection. Currently, TBPF handles oil production of ~9,000 barrels per day, and 110,000 barrels of water. This is 50 times the volume for comparable oil volumes at GPTF and 150 times actual water volumes. For example, the Grayling Platform produces about 47,000 bpd gross fluid. Of that, only 2,400 barrels of oil are produced.

None of the five platforms that ship fluids to TBPF have offshore separation equipment. A key requirement for oil and water separation is retention time. Oil and water are separated by gravity with

storage time in tanks and vessels. The more volume of fluid handled, the larger the tanks and vessels must be. Adding storage capacity offshore is challenging, in large part because of space considerations. Space is not available to install the necessary vessels and tanks to adequately handle the volumes of water which are produced from the 5 TBUITBF platforms, even if the volume of oil produced would support the capital investment, which it does not.

Thus onshore treatment and discharge of fluids is necessary. CI operators continue to pursue opportunities for injection of waste: however, the ability to inject is limited by volumes of produced water, available wells, reservoir properties and economic feasibility. Discharge of produced water is therefore essential for continued operations.

Response

Please reference the following in the Response to Comment Document:

Response # 197

Comment ID CI-127.204

Section II.G.6.a.l requires produced water monitoring for WET once per quarter, with the monitoring frequency reduced to once per six months if the permittee has complied with the permit limit for one year. AOGA appreciates EPA's intention to reduce monitoring requirements after demonstration of consistent compliance; however, this is an increase in testing frequency for produced water WET at most of the currently operating facilities even under the reduced monitoring requirement available after twelve months of compliance. For produced water at the 7 UOCC facilities, for example, there are a total of 41 instances of new monitoring requirements, one instance of a monitoring requirement being dropped and three instances of increased monitoring frequency.

Further, only produced water has provisions for reduced monitoring based on good compliance history. WET testing for miscellaneous discharges, if retained, and monitoring of Sanitary discharges would never be eligible for reduced testing based on compliance history. The Fact Sheet (pages 5 and 41) indicates that reducing monitoring requirements upon a showing of consistent compliance still results in "sufficient monitoring to ensure water quality is protected and reduces the burden on operators where appropriate". All continuous discharges should be eligible for reduced monitoring. Therefore, the Monitoring Requirements (Section II.G.6.a) should be expanded to allow reduced monitoring following demonstrated compliance for all continuous discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 198

Response # 31

Response # 4

Comment ID CI-127.205

The Fact Sheet, Section IV.C.3.c.iv (page 41) states that due to significant permit limit changes between the Expired Permit and the Proposed Permit, effluent data collected under the Expired Permit is not proposed to be applied to monitoring frequency reduction allowances under the new permit. However, with two exceptions (Tyonek A and Granite Point Platform) the WET testing conducted under the Expired Permit could be used to demonstrate compliance with limits under the Proposed Permit. This data could be used to set initial testing frequencies based on whether these discharges have a reasonable potential to exceed Alaska's water quality standards and applied to monitoring frequency reductions under the Proposed Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 31

Comment ID CI-127.206

EPA's Response to Comments (p 47) states, "The EPA has determined that decreasing the proposed monitoring frequency from weekly to monthly for TAH, TAqH and metals at all platforms discharging less than 1 mgd of produced water per month, and to annual for WET, is appropriate considering the relatively low discharge volumes at those locations, and the routine and consistent nature of the physical separation methods used at those locations."

Flow volumes at all facilities except TBPF are below 1 mgd. AOGA proposes that produced water WET compliance testing every six months be applied to new facilities and facilities without existing data to demonstrate compliance with Proposed Permit limits. An annual testing frequency should apply to those facilities with existing data to demonstrate compliance with Proposed Permit limits. Tables 7.B. 1 -6 and 8-9 should be amended to required annual monitoring for WET as required under the Existing Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 198

Response # 31

Comment ID CI-127.207

Section II.G.6.a.2, Footnote #2 of Table 7-B1-9 refers the permittee to Section II.G.6.a.2 which increases WET monitoring to monthly following a noncompliance. Section III.A.7. Accelerated Testing requires additional sampling for WET within two weeks of receipt of sample results if chronic toxicity exceeds limits. This increases to four bi-weekly tests over an eight week period if chronic toxicity is again detected. This protocol serves the purpose of accelerated testing intended by footnote #2 and should be used in its place for WET testing. Otherwise, the provisions would conflict. The sentence regarding WET testing in footnote #2 should be changed to read: "For Whole Effluent Toxicity, follow the accelerated testing protocol required by Section III.A.7."

Response

Please reference the following in the Response to Comment Document:

Response # 199

Comment ID CI-127.208

The TAH and TAqH limitations in the Fact Sheet Table 10-7 (Proposed Permit Table 7- A) are at the same ratio as the respective WQS (10:15). It would appear the effluent limitations are based on multiplying the respective WQS by the dilution factor derived in the application for the component (either TAH or TAqH) with the higher HQ. With the exception of the TAqH limitation for East Foreland (shown as 24.2, application based on 26.06), the daily maximum limitations for the compound with the highest HQ match the reasonable maximum concentrations (RMC) derived in the permit application.

However, the limitations for the compound with the lower HQ (is-TAqH where TAH is the driver) are higher than RMCs derived in the application. For Trading Bay, for instance, the TAH limitation of 19.7 mg/l corresponds with the RMC derived in the permit application. But the TAqH limitation of 29.55 mg/l, which equals 15 ug/l times the dilution factor (1,970) derived based on the driving parameter (TAI-I), is substantially higher than the RMC (20.55 mg/l). It is unclear why, with carefully derived RMC for both compounds available, the WQS ratio would be used to set effluent limitations.

This approach yields higher-than-needed limitations for either TAqH or TAW at every facility and for every metal that is not the "driver" metal). The requested mixing zones were based on meeting WQS at or within the mixing zone boundary should discharge at the RMC occur under critical conditions. Alaska law and policy might preclude ADEC from certifying higher-than-RMC effluent limitations. It is recommended that all effluent limitations should corroborate RMC derived in the permit application. RMC derived in the permit application are believed to be the lowest achievable effluent concentrations.

Response

Please reference the following in the Response to Comment Document:

Response # 200

Response # 8

Comment ID CI-127.209

Section KG., Table 7-A states that oil and grease analysis shall be performed once per week by grab. Footnote #2 to Table 7-B 1-9 references Section II.G.6.b which states "the permittee shall monitor free oil using the visual sheen test method ..." This requirement does not apply to TAH, TAqH, metals, or WET. II.G.6.b continues to require that a produced water sample be collected and analyzed for oil and grease when sheen is observed ..., "At a minimum a sample shall be collected and analyzed once per month". Since sampling of produced water is already required once per week by grab these sections conflict. Further, as discussed at length above, this requirement is not appropriate. AOGA requests that Section II.G.6.b. be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 201

Comment ID CI-127.210

The Proposed Permit includes extensive additional monitoring and new limits for metals analyses of produced water. This burdensome requirement is not justified by historical data and in many cases is based on a single specialty sample collected for the permit application. The proposed permit provides reduced sampling frequency after one year if results meet limits, but does not take into account the extensive data available from studies of produced water, or years of EPA regulated monitoring of metals in produced water. Expanding metals monitoring is not justified by risk, is burdensome, and does not enhance the protections afforded by this permit.

Response

Please reference the following in the Response to Comment Document:

Response # 202

Response # 204

Response # 31

Comment ID CI-127.211

Section II.G requires that all produced water discharges be monitored monthly for copper, mercury, manganese, nickel, and zinc. This results in a significant expansion of monitoring requirements from the existing permit. For example, there are 27 new metals parameters which must be monitored and reported monthly for the UOCC facility produced water outfalls alone. In many cases, monitoring has been required on the basis of a single sample taken to complete permit renewal application obligations. There are also several instances, as with manganese at the Dillon and Tyonek A, where there is no data suggesting that reasonable maximum effluent concentrations would exceed water quality standards. In addition, the monitoring frequency proposed is not established appropriate to risk.

The data provided for the UOCC permit application included background analysis of metals in Cook Inlet intake water. Produced water analysis for copper was found to be higher in the Cook Inlet receiving water sample than in all of the UOCC produced water samples. Mercury was found in UOCC produced water analysis to be non-detect in all but one sample (TBPF) and non-detect in Cook Inlet background. At the time of the last permit renewal EPA commented that "[b]ecause the mercury data set is limited, however, monthly mercury monitoring has also been required in the final permit for one year". EPA does not appear to have evaluated this information.

Response

Please reference the following in the Response to Comment Document:

Response # 202

Comment ID CI-127.212

Additionally, it is not clear if EPA has utilized all available certified data to calculate metals limits (and possibly other limits as well). Historical DMR data has been submitted for copper and mercury in produced water discharges at GPTF and Anna, for example. Certified historical data is available for copper at TBPF and Dillon Platforms. These certified data points do not appear to have been utilized to determine the need for continued or expanded metals monitoring.

Response

Please reference the following in the Response to Comment Document:

Response # 106

Response # 116

Response # 202

Response # 40

Comment ID CI-127.213

Greatly expanded metals monitoring is proposed despite substantial available evidence that metals concentrations in Cook Inlet are overwhelmingly established by sediment metals naturally occurring in the Inlet. On page 23 of EPA's Response to Comments the agency states, "...sediment concentrations of metals have not increased significantly since oil and gas production began in Cook Inlet and riverine inputs are hypothesized to be the dominant source of sediment metals in Cook Inlet". In the same document EPA relates the preliminary results of the MMS study which indicate "the surface sediments of outermost Cook Inlet and Shelikof Strait are potential traps for oil and gas contaminant, but that the concentrations of metals and organics in these sediments have not increased significantly over the past 25 to 50 years".

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 202

Comment ID CI-127.214

Based on EPA's approved modeling approach, all metals will meet their respective WQS within their respective mixing zones. The fact that EPA identifies, in Appendix A of the Fact Sheet, some chemicals with the potential to exceed WQS at the edge of the mixing zone reflects errors and/or flawed logic in Appendix A of the Fact Sheet.

Response

Please reference the following in the Response to Comment Document:

Response # 116

Response # 202

Comment ID CI-127.215

Mixing zones have been established on the basis of a 'driver' metal. Produced water metal constituents are essentially naturally occurring and are, therefore, not subject to variation. This is demonstrated by historical, certified data. The mixing zone application submitted by the Cook Inlet oil and gas operators requested mixing zones for metals and ammonia. For simplicity, the mixing zone application identified a single mixing zone size for each facility. The dilution factor associated with each of these mixing zones was provided in the application. The mixing zone application identified a single mixing zone size for metals at each facility, and associated dilution factor, that would be sufficiently large for all metals to meet their respective water quality standards. In the Proposed Permit, the daily maximum permit limitations for metals at each facility were calculated based on the dilution factors identified in the mixing zone application multiplied by the parameter's water quality standard.

The above approach results in an appropriate permit limitation for the "driver" parameter, since it was the basis for the single mixing zone, but higher (i.e., less stringent) than necessary permit limitations for the non-driver parameters. Rather than imposing limits that existing data demonstrates have no reasonable potential of being exceeded, the permit should not impose limits on those metals. Alternatively, AOGA recommends that permit limitations for each parameter, which are appropriate to monitor based on flow, risk and certified data, be calculated using parameter-specific dilution factors. That approach would be more consistent with DEC's approach to regulating chemical discharges and mixing zones than the approach EPA used to set the proposed limits. However, if, after reviewing this issue, EPA determines it is necessary to retain proposed metals monitoring at facilities which do not have historical metals data, it may be necessary to use the dilution factor based on the "driver" parameter.

Response

Please reference the following in the Response to Comment Document:

Response # 203

Comment ID CI-127.216

AOGA requests that sample frequency be established consistent with risk and with the lack of variability in produced water content. During meetings with EPA early in the renewal process, EPA representatives indicated that sufficient metals analysis had been performed to determine that sampling could be discontinued or frequency of sampling reduced. If any monitoring requirements are deemed necessary after analysis of historical data, semi-annual or annual monitoring would be more appropriate for produced water outfalls.

Response

Please reference the following in the Response to Comment Document:

Response # 204

Comment ID CI-127.217

Expanding monitoring for metals in the proposed permit is unwarranted. If EPA wishes to monitor to assure that WQSs are being met at the edge of the mixing zone, monitoring only the 'driver' metal is the most efficient and appropriate way to ensure compliance for all metals that occur in produced water.

Response

Please reference the following in the Response to Comment Document:

Response # 203

Response # 205

Comment ID CI-127.218

The Fact Sheet also notes that limits and monitoring for arsenic, cadmium, lead, and silver, all of which appear in the Existing Permit, have been removed from the proposed permit, because long term monitoring has demonstrated no reasonable potential to exceed the applicable water quality criteria. AOGA supports and appreciates this change.

Response

Thank you for your comment.

Comment ID CI-127.219

The effluent, mixing zone edge, and reasonable potential concentrations of metals in Appendix A of the Fact Sheet are expressed as total metal. However, the chronic criteria for several metals are expressed as dissolved metal. For comparative purposes, the chronic criterion should be expressed as total metal using metal-specific conversion factors. (A conversion factor is used to estimate a dissolved metal criterion from a total metal criterion and vice versa.)

Response

Please reference the following in the Response to Comment Document:

Response # 206

Comment ID CI-127.220

Aquatic life-based water quality standards for copper, mercury, nickel, and zinc are based on dissolved metal, as this measurement provides a better estimate of bio-available metal than measurements of total recoverable metal. However, it is typical for effluent limitations to be reported as total recoverable metal and this is what the facilities currently monitor. (In the mixing zone application, reasonable maximum metal concentrations are also based on total recoverable metal.) The EPA typically uses a translator to estimate the fraction of a metal in an effluent that will be dissolved once it is discharged into receiving water. The translator can be determined based on site-specific data or a default translator may be used in the absence of site-specific data. The default translator is equal to the conversion factor used to derive dissolved water quality standards from standards expressed as total recoverable metal.

In the Proposed Permit, the daily maximum effluent limitations for a given parameter were derived using the dilution factors in Table ES-I of the mixing zone application multiplied by the water quality standard for that parameter. Thus, for some of the metals the dilution factor was multiplied by a dissolved water quality standard and this value was identified, without modification, as the permit limit expressed as total metal. Consequently, a translator was not used to properly adjust the dissolved concentration back to a total recoverable concentration.

There are basically two options to address this issue. One option is to adjust the effluent limitation so that it is truly based on total recoverable metal instead of dissolved metal by using the conversion factor. (This would entail dividing the effluent limitation, as derived in the Proposed Permit, by the metal-specific conversion factor.) The second option is to measure total recoverable metal in the effluent, as is typically done, but estimate the dissolved metal concentration by multiplying the effluent concentration by the default conversion factor before determining compliance with the effluent limitation. Regardless of the approach used, the language in the permit needs to clarify the basis for the effluent limitation and what form of metal (i.e., total recoverable or dissolved) should be monitored in effluent.

Response

Please reference the following in the Response to Comment Document:

Response # 207

Comment ID CI-127.221

The effluent limitations and the sample data used to calculate the limitations for ammonia in the draft NPDES permit for Cook Inlet are based on total ammonia (NI-13 + NH₄); however, this is not stated clearly in the permit.

This issue is further confused because in Appendix A of the Fact Sheet, the ammonia concentrations in effluent shown are based on total ammonia, but the chronic criterion shown by which it is compared is based on un-ionized ammonia. Appendix A gives the misleading impression that effluent ammonia concentrations exceed the LVQS when in fact, it reflects an invalid comparison. The poor comparison of concentrations is compounded by the fact that un-ionized ammonia is typically only 1-2 percent of total ammonia under ambient conditions; therefore the difference is increased by an additional two orders of magnitude.

The Proposed Permit and fact sheet would be much clearer if either total ammonia or unionized ammonia were used throughout. For simplicity, AOGA recommends that all ammonia concentrations be expressed as total ammonia, since this is the form measured by available laboratory methods in effluent and is the basis for the effluent limitations. (All ammonia concentrations in the mixing zone application, both effluent concentrations and WQS, are based on total ammonia.)

Response

Please reference the following in the Response to Comment Document:

Response # 208

Response # 209

Comment ID CI-127.222

Proposed Permit Page 44: II.H Requirements for Well Treatment, Workover, and Completion Fluids

Footnote #2 to Table 8 requires that samples be collected after the final step of treatment. However, language should be added to clarify that if these fluids are commingled with produced water, then pursuant to condition II.H.2 they are considered produced water for monitoring purposes.

Response

Please reference the following in the Response to Comment Document:

Response # 210

Comment ID CI-127.223

AOGA supports Section II.H.2 which is consistent with the EPA Coastal ELGs, where EPA found that typical industry practice is to commingle these fluids with produced water. This is also consistent with the Development Document for Offshore ELGs (EPS 821-R-93-003), which states (p. VI-7), "EPA is controlling pollutants found in well treatment, completion, and workover fluids commingled and treated with produced water by limiting oil and grease to 29 and 42 mg/L monthly average and daily maximum." When these discharges are separated from produced water, they are limited by the same oil and grease limitations as produced water and by a prohibition on the discharge of free oil.

EPA found for both the offshore and coastal subcategories, that these fluids, in most instances, become part of the produced water waste stream and take on the same characteristics as produced water. This is the case when well treatment, workover or completion fluids are added to the production stream offshore and are shipped onshore for treatment. There is no basis to require testing prior to treatment.

Response

Thank you for your comment.

Comment ID CI-127.224

Table 8 requires that volumes discharged be reported in barrels rather than million gallons per day. This requirement is inconsistent with other sections of the Proposed Permit, and thus contributes to the difficulty of implementing the new permit and is a potential source of error in the DMRs. AOGA requests that volumes continue to be reported consistently in million gallons per day.

Response

Please reference the following in the Response to Comment Document:

Response # 211

Comment ID CI-127.225

The Proposed Permit should not include the requirements for Storm Water Pollution Prevention Plans (SWPPP.) Page 30 of the Fact Sheet states "If facilities are covered under a separate NPDES permit and have completed these requirements in compliance with that permit these requirements would not apply." EPA's Proposed Permit does not reflect this provision. Onshore facilities GPTF and TBPF are both permitted under EPA's NPDES Multi-sector General Permit for Stormwater Discharges Associated with Industrial Activities.

Response

Please reference the following in the Response to Comment Document:

Response # 212

Comment ID CI-127.226

It should be noted that the language included in the Proposed Permit is not consistent with the Multi-sector General Permit. It should also be noted that Section I.2.c which states that the SWPPP must "ensure compliance with terms and conditions of this permit" is confusing, and if broadly interpreted, could imply that the SWPPP must "ensure compliance" to aspects of the permit unrelated to stormwater. AOGA recommends that Section II.I be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 212

Comment ID CI-127.227

In Section III.A. Whole Effluent Toxicity Requirements for Outfalls 002 and 005-015, EPA has radically changed the WET testing requirements specified for produced water and expanded the applicability of WET testing to miscellaneous discharges. AOGA's objections have been noted earlier in this document. Specific test requirements for WET testing have also been changed. Section III.A outlines these requirements.

Section III.A.1 requires three test species which are not included in the testing manuals methods referenced in Alaska Department of Environmental Conservation Water Quality Standards 18 AAC 70, as amended through March 23, 2006. None are promulgated as approved test methods at 40 CFR Part 136.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Response # 180

Response # 4

Comment ID CI-127.228

AOGA objects to the addition of topsmelt as a test species and proposes to continue testing the inland silverside if a vertebrate species is required. The inland silverside test is included in the manuals referenced by 18 AAC 70, and the test is promulgated at 40 CFR Part 136. 18 AAC 70 allows testing of indigenous species as ADEC considers necessary and feasible for aquatic life protection, but the topsmelt is not indigenous to Cook Inlet and is not found north of Vancouver Island, British Columbia. At this time there is only one supplier for topsmelt (Aquatic BioSystems, Fort Collins, CO.), so supplies may be unavailable at critical times.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Comment ID CI-127.229

Section III.A.1.b contains a spelling error which should be corrected: Pacific Oyster, [CRASSOSTRAR] ((Crassostrea)) gigas, or mussel, [MYTILIS] ((Mytilus)) sp

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 213

Comment ID CI-127.230

AOGA objects to the large increase in chronic toxicity testing required under the Proposed Permit. The Proposed Permit, at Section III.A.1.-2, requires re-screening for three species for sensitivity annually, and quarterly testing with the most sensitive species during the remaining three quarters. Test frequency reduction to twice yearly after one year of compliance is possible. In addition, the West Coast test method manual referenced requires a concurrent reference toxicity test for each effluent test.

Response

Please reference the following in the Response to Comment Document:

Response # 214

Comment ID CI-127.231

In the first year of the permit, each discharge point would require 12 toxicity tests. Assuming compliance is demonstrated during the first year and test frequency is reduced, each discharge point would require 8 toxicity tests annually for the life of the permit. As described in AOGA comments on new toxicity testing requirements for chemically treated seawater, each platform may have multiple discharge points for chemically treated seawater, and UOCC alone has 17 chemically treated seawater discharge points in addition to produced water and deck drainage discharges with WET testing requirements. The following table illustrates the WET testing required.

ATTACHMENT Table 3

To decrease the testing burden while still achieving the permit objective of aquatic life protection, AOGA suggests permit requirements to screen with two species (a fish and an invertebrate) once per permit cycle, and to use the most sensitive species for the remainder of the permit cycle.

Response

Please reference the following in the Response to Comment Document:

Response # 214

Comment ID CI-127.232

The Proposed Permit requirement for species sensitivity screening is unnecessarily duplicative, since it requires screening with 1 fish and 2 invertebrates. The permit requirement should be changed to require screening with 1 fish and 1 invertebrate. The requirement should specify the invertebrate as the oyster/mussel, or give the option to choose between the oyster/mussel test OR the urchin/sand dollar test based on availability of spawning organisms.

Response

Please reference the following in the Response to Comment Document:

Response # 215

Comment ID CI-127.233

The first manual listed, in Section I11.A.2 is EPA Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, the Third Edition (EPA-821-R-02-014) does not include any of the tests listed in the Proposed Permit. Unless ((Menidia)) is used in place of topsmelt, it should be dropped from the permit.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 10

Response # 48

Comment ID CI-127.234

The definition of Chronic Toxic Unit (TUC) should be changed in Section III.A.4, and also added to Appendix A. The whole effluent toxicity limit is derived from 18 AAC 70.030, which states that an effluent discharged to a water may not impart chronic toxicity to aquatic organisms, expressed as 1.0 chronic toxic unit, at the point of discharge, or if the department authorizes a mixing zone in a permit, approval, or certification, at or beyond the mixing zone boundary, based on the minimum effluent dilution achieved in the mixing zone.

Response

Please reference the following in the Response to Comment Document:

Response # 216

Comment ID CI-127.235

AOGA requests that the definition of chronic toxic unit be changed in Section III.A.4 to use 100/IC25 and that a matching definition for chronic toxic unit be provided in Appendix A. (See recommended language in Section 10 of AOGA's comments on Appendix A.) AOGA notes that the requested change is compatible with both state law and EPA guidance and that similar changes have been made in other recent permits in Alaska. For clarity, [SURVIVAL, GROWTH, OR FECUNDITY ENDPOINTS] should also be replaced with ("survival, growth, development, or fertilization endpoints" to capture the endpoints in the test methods specified in the Proposed Permit. Suggested wording follows:

4. [RESULTS MUST BE REPORTED IN TUC, WHERE TUC = 100/NOEC.] ((Results must be reported in TUC, where TUC = 100/IC25. The reported IC25 must be the highest IC25 calculated for the applicable)) [SURVIVAL, GROWTH OR FECUNDITY ENDPOINTS] ((survival, growth, development, or fertilization endpoints"))

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 217

Comment ID CI-127.236

For clarity, AOGA requests that Section III.A.6.a be amended as follows, "If organisms are not cultured in-house, concurrent testing with reference toxicants must be conducted unless the test organism supplier provides control chart data from at least the last five months of reference toxicant testing." This is consistent with WET method promulgation at 40 CFR Part 136 (FR 67 223, p. 69960, November 19, 2002).

Response

Please reference the following in the Response to Comment Document:

Response # 218

Comment ID CI-127.237

Additionally this Section III.A.6.a should be edited for clarity by replacing "IN HOUSE" with "by the testing laboratory". This would more clearly state the intended meaning. No WET tests are performed "in house" at Cook Inlet facilities.

Response

Please reference the following in the Response to Comment Document:

Response # 218

Comment ID CI-127.238

Page 56

The entire second sentence should be deleted: [IF THE DILUTION WATER USED IS DIFFERENT FROM THE CULTURE WATER, A SECOND CONTROL, USING CULTURE WATER MUST ALSO BE USED.] Since the animals are acclimated to laboratory dilution water prior to testing, this requirement is not needed. Additionally, the logistics of shipping large volumes of water from various parts of the country is difficult and expensive.

Response

Please reference the following in the Response to Comment Document:

Response # 219

Comment ID CI-127.239

Proposed Permit Page 56: Section II1.A. 7.12

This section should be reworded as follows: "If chronic toxicity is detected above the permit limits in Sections II.C.1, 113.4 or 11.G.1, collection [AND ANALYSIS] of one additional sample is required within two weeks of receipt of the test results." This change clarifies the applicable permit limits (remove reference to II.F.4 if that limit is removed as requested by these comments), and clarifies that analysis must only commence within two weeks. As written, this section implies that analysis of the follow-up sample must be completed within two weeks of receiving the initial adverse test result.

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

Response

Please reference the following in the Response to Comment Document:

Response # 220

Comment ID CI-127.240

Proposed Permit Page 56: Section IIIA. 7.b

Typographical errors should be corrected and the section should be clarified as follows: "If chronic toxicity is [NOT] detected ((above the applicable permit limit)) in the sample required by [SECTIONS II.F.4 OR II.G.1] ((Section III.A.7.a)), the permittee must notify the EPA and ADEC in writing of the results [WITHIN FIFTEEN (15) DAYS OF RECEIPT OF THE RESULTS, AND MUST DISCUSS THE CAUSE OF THE EXCEEDANCE, AND THE CORRECTIVE ACTIONS THAT WERE TAKEN] ((on the monthly DMR))." As written, this section applies to the initial monitoring event, not the intended follow-up event. Also, the reporting obligations should only be triggered if toxicity is detected above the applicable permit limit.

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 199

Comment ID CI-127.241

Both Sections III.A.7 and III.A.10 require notification to EPA and the State "within 15 days of receipt of the results of the exceedance of the permit limit, of the finding of the TRE/TIE or other investigation to identify the cause(s) of toxicity; actions the permittee has taken or will take to mitigate the impact of the discharge, to correct the noncompliance and to prevent the recurrence of toxicity; where corrective actions including a TRE/TIE have not been completed, an expeditious schedule under which corrective actions will be implemented; and if no actions have been taken, the reason for not taking action." It is unreasonable to expect root causal analysis, corrective actions planned or scheduled, and a written correspondence prepared and delivered within 15 days of the receipt of test results showing an exceedance. AOGA requests that a minimum of 30 days be allowed to complete these complex tasks. EPA will be aware of the exceedance through routine DMR submittals and verbal reports.

Response

Please reference the following in the Response to Comment Document:

Response # 221

Comment ID CI-127.242

Proposed Permit Page 56: Section III.A. 7.c

As written, Section III.A.7.c. is confusing and seems to contradict III.A.7.a. Section III.A.7.e. should be corrected to read as follows: "If chronic toxicity is detected ((above the applicable permit limit)) in the sample required by [SECTIONS II.F.4 or II.G.1.] ((Section III.A.7.a.)) then ... the sample results required by [Part II.F.4 AND II.G.1] ((Section III.A.7.a."))

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 199

Comment ID CI-127.243

Proposed Permit Page 57: Section III.A.9.a. As written, this section requires a TIE if any two of four biweekly tests show toxicity. Current EPA guidance is to require a TRE, but to allow the permittee to decide whether a TIE is needed as part of the TRE. Other methods, such as investigation of operational changes, may be sufficient to identify the cause of toxicity.

It is stated that "if chronic toxicity is detected in any two of the four bi-weekly tests, the permittee must initiate a TIE to identify the specific chemical(s) responsible for toxicity EPA/600/6-91/005F (Phase I), EPA/600/R-92/080 (Phase II), and EPA-600/R-92/081 (Phase III)." The language suggests that all three TIE phases must be conducted if toxicity is detected in two of the four bi-weekly tests. However, the text should clarify that if the source of toxicity is adequately identified in the Phase I or Phase II TIEs, such that toxicity can be reduced through control actions and/or plant modifications, then conducting subsequent TIE phases is not necessary. In addition, the Phase I manual referenced is for freshwater TIES, but the permit uses marine toxicity tests.

Response

Please reference the following in the Response to Comment Document:

Response # 222

Comment ID CI-127.244

Proposed Permit Page 58 Section III.B Specific Test Requirements for Stock Base Fluid Sediment Toxicity

Section III.B specifies an obsolete and inappropriate test method for stock base fluid sediment toxicity. The most current ASTM method for sediment testing is: ASTM E 1367-03: Standard Test Method for Measuring the Toxicity of Sediment-Associated Contaminants with Estuarine and Marine Invertebrates. We understand the sediment toxicity test method is specified in Appendix 3 of 40 CFR Part 435. Subpart A. Procedure for Mixing Base Fluids with Sediments; however, please correct the requirement to reflect the most recent version.

Response

Please reference the following in the Response to Comment Document:

Response # 223

Comment ID CI-127.245

Page 58

Sections III.B, and III.C contain incorrect appendices references. The Proposed Permit has Appendix A as the definitions. Section III.B. should be corrected to note the location of the method is actually in Appendix B. In the last sentence of the paragraph, "the method found in Appendix [A] ((B)) of this permit." Section III.C should be corrected to note the location of the method is actually in Appendix C as follows: ". . . and detailed in Appendix [B] ((C))of this permit . . ."

Response

Please reference the following in the Response to Comment Document:

Response # 224

Comment ID CI-127.246

Proposed Permit Page 59

Section III.G has a typographical error which should be corrected as follows, "The required sampling, handling, and documentation procedures ..."

Response

Please reference the following in the Response to Comment Document:

Response # 224

Comment ID CI-127.247

AOGA requests that Section IV be deleted in its entirety. The Fact Sheet provides no authority for this requirement. QAPs are commonly required to be developed and followed by contract laboratories that conduct analyses which serve to demonstrate compliance under the CI NPDES General Permit. However, it is not appropriate to require operators to develop, submit or certify these plans. It is incumbent upon operators to certify compliance with the conditions of the permit. In order to do so, operators must perform due diligence in selecting contractors, then rely on the expertise of the contract laboratories to accurately follow the approved methods and procedures.

EPA has not successfully developed a laboratory certification program which might provide additional confidence relative to specific laboratories. Short of a functional certification program, operators require contract laboratories to provide QAPs for review and insist that said laboratories follow QAPs as a contractual condition. Operators seek performance information annually on contract laboratories in Alaska who participate in the national DMR QA Program. This program is then executed in conjunction with laboratory Quality Assurance Programs.

Additionally, laboratory QAPs are reviewed and required for Alaska Drinking Water and Contaminated Sites Certifications. Each laboratory facility that supports UOCC's program maintains these certifications and participates in annual requirements appropriately.

Response

Please reference the following in the Response to Comment Document:

Response # 225

Comment ID CI-127.248

Requirements included in Section IV.A-E are either already included in analytical methods, BMP, or laboratory protocol specifications. Requirements are also redundant to information in the permit and permit application such as latitude and longitude of sample locations and sample frequency. No basis is included in the Fact Sheet for the addition of this onerous requirement. Table 4: Special Documents, Plans & Reports, below, illustrates the quantity of documents required by the Proposed Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 225

Comment ID CI-127.249

AOGA recommends that Section IV.B be deleted. Section IV.B states, "The QAP shall address effluent, internal waste stream, ambient water, and ambient sediment monitoring.." If retained, the applicability of this section should be limited to analytical monitoring required by the permit and, therefore, internal waste streams should not be addressed. If Section VII is deleted as discussed later in these comments, Section IV.B. should no longer reference ambient water and ambient sediment monitoring.

Response

Please reference the following in the Response to Comment Document:

Response # 225

Comment ID CI-127.250

Section IV.A-E requires that a QAP be developed and notifications made within 90 days of the effective date of the permit. If retained, AOGA requests more time to complete this task since new sampling requirements (e.g. metals and WET for treated waste streams) and many other complex obligations are included in the Proposed Permit. Ninety days is not reasonable and should be increased to 180 days. Additionally, the requirement of Section IV.D to amend the QAP "whenever there is a modification in the sample collection, sample analysis, or conditions or requirements of the QAP" does not provide time for compliance.

Response

Please reference the following in the Response to Comment Document:

Response # 225

Comment ID CI-127.251

The following table lists the many special documents (SWPPPs, BMPs, Drilling Fluid Plan, Chemical Inventories, etc.) proposed. AOGA requests that EPA consider reducing the number of these requirements by evaluating their value and the likelihood that EPA will actually use the data provided, or, in fact, has a demonstrated need.

ATTACHMENT P 134-139 in hard copy

Response

Please reference the following in the Response to Comment Document:

Response # 226

Comment ID CI-127.252

AOGA requests that Section V be deleted in its entirety and replaced with the language from the Existing Permit at section III.I. Section V.A-H in the Proposed Permit is over 10 pages of prescriptive, redundant and overly complicated requirements expanding the content of existing BMPs. As drafted, this section is redundant to the SPCC plan, SWPPP requirements (despite a separate section on SWPPPs), solid and hazardous waste management practices, and air permit requirements. It also contains a list of 17 mandatory, specific BMPs, such as: (k) substituting standard drilling fluid additives with less toxic additives; and (j) segregating contaminated process area deck drainage from relatively uncontaminated runoff from areas like walkways and living quarters. Some examples of misguided, prescriptive requirements are listed below:

Page 64, V.D.5.a. states: "Ensure that solids, sludges, or other pollutants removed in the course of treatment or control of water and wastewater are disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters." This requirement should be deleted, or EPA should provide clarification that discharge of filter backwash water and used filter media is allowed. As worded, this language could be interpreted to prohibit the discharge of filter backwash water and used filter media. In Cook Inlet, the natural sediment load is so high that the water must be filtered to remove silt prior to being able to use the water for almost anything on the platforms. The trapped silt plus some sand and diatomaceous earth will be discharged during backwash operations.

Page 64, V.D.5.b. states: "Separate used motor oil from deck drainage collection systems." Deck drainage includes washdown water and drains from rooms with engines that may leak some lube oil. Since deck drainage goes through an oil/water separator and is checked for free oil, TAqH, TAH, and PAH, there are enough controls on this effluent without requiring the platforms to be replumbed

Page 64, V.D.5.f states, "If oil is used as a spotting fluid, then careful attention to the operation of the drilling fluid system could result in the segregation from the main fluid drilling system of the spotting fluid and contaminated drilling fluid..." "This is redundant and adds no value. The people working on the rigs understand the limitations within the permit regarding mineral oil pills, whole oil and sheen limits.

Page 64, Section V.D.5.i states, "Substitute diesel oil with less toxic mineral oil or synthetic-based material in drilling fluid applications.", This would not be a Drilling Engineering best practices standard nor would it reduce discharges. The lubricity and fluid properties of diesel oil drilling mud can be superior in certain applications, and it is unreasonable to include a blanket statement in a best practices document. Drilling critical wellbores, that are being highly deviated, long reach, highly tortuous, etc. without the optimum mud system can cause slower penetration rates (thus more circulation time and more discharges) and more eases of stuck drill strings resulting in lost well-bores and requiring sidetrack wellbores (again resulting in more drilling and thus more discharges.) Further, diesel oil-based drilling fluids can be more economical to make up and run than synthetic-based fluids. If discharges are prohibited, it makes no sense to run synthetic-based fluids. In the current environment of increasing commodity and service pricing, to completely dismiss the option of using a diesel-based drilling fluid makes no sense and could make a marginal project uneconomic.

Page 65, V.D.5.j states, "Substitute standard drilling fluid additives with less toxic additives." This would not be a Drilling Engineering Best Practices Standard. Often, "less toxic" drilling fluids

additives result in mud with inferior mud properties than achievable with "standard" fluid additives. Inferior mud properties can result in more drilling mud retention on cuttings, poor penetration rates, stuck bottom hole assemblies and well control incidents. Frequently, the "less toxic" additives need to be added at greater concentrations to achieve the desired results, resulting in their being just as "toxic" as the chemical being replaced.

The Guidance document for Developing Best Management Practices (EPA-833-B-93- 004, EPA, 1993) promotes flexible BMPs that allow a facility to tailor a BMP plan to meet its needs using the capabilities and resources available. EPA's Response to Comments (p. 20) stated, "It is EPA's intent to allow Permittees to identify the practices and procedures most appropriated for each facility." This established position is not reflected in Section V.

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.253

AOGA objects to reiterating existing regulatory programs, many of which are not related to wastewater discharge, in the permit. EPA's response to similar comments during renewal of the Existing Permit follows:

Section II.1.4.d required that measures be established in the BMP to ensure the requirements of RCRA, Alaska Solid Waste Management, Stormwater, and other programs be met. EPA believes that this requirement may detract from the purpose of the BMP Plan, which is to minimize the discharge of pollutants into Cook Inlet. When a RMP issue is already addressed via a separate regulatory program, the BMP Plan is expected to reference those efforts, not to duplicate them. The EPA does not intend for permittees to attempt to duplicate or repeat practices more fully described in the other documents. The duplicative requirements within the permit have been removed by removing Part III.I.3.b (BMP operation and maintenance) from the final permit.

This established EPA position should be implemented now by removing the reiteration of existing regulatory programs from this permit. For example, Section V.G.3 indicates that the BMP Plan "may reflect requirements within the pollution prevention requirements required by the Minerals Management Service (see 30 CFR 250.300) or other Federal or State requirements and incorporate any part of such plans into the BMP Plan by reference."

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.254

The Response to Comments (page 20) states, "EPA thinks that one year is adequate time to develop a BMP plan." Given the expanded and highly prescriptive nature of the proposed requirements, one year to modify existing BMPs will be necessary if EPA persists in this unwarranted approach. Again, AOGA requests that EPA correct the Proposed Permit language to reflect the previously established and appropriate position that, "BMPs are intended to augment effluent limitations, and are inherently pollution prevention practices which focus on good housekeeping measures and good management techniques. BMPs do not specify treatment requirements or operating techniques ..."

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.255

Section V.D.5.c uses the term 'upset' in a context that is not consistent with the permit definition of the term. If Section V is retained, D.5 must be edited.

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.256

Section V.E requires that EPA and ADEC be notified in writing of "all changes in the BMP Plan". The BMP plan is not required to be submitted but rather must be kept onsite. Therefore, this requirement is incongruous and should be deleted.

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.257

Section V.F states "At any time, if the BMP Plan proves to be ineffective in achieving the general objective of preventing and minimizing the generation of pollutants and their release and potential release to the receiving waters and/or the specific requirements above, the permit and/or the BMP Plan shall be subject to modification to incorporate revised BMP requirements." It is unclear if this section is intended to state the EPA's right to require modifications. If so, what mechanism and criteria will be used for judging effectiveness? If this section is intended to state the operator's obligation to measure effectiveness and modify accordingly, again no mechanism or criteria is established and the paragraph implies that modifications must occur instantaneously. This section serves no useful purpose and should be deleted in its entirety.

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.258

Section V.G Additional BMPs Applicable to Discharges Containing Non-Aqueous Based Drilling Fluids only applies to discharges of cuttings associated with non-aqueous fluids (NAF). It is taken almost directly from the appendix to the offshore guidelines, 40 CFR Part 435, Subpart A, Appendix 7, Addendum B. The permit could be significantly shortened by referring to the relevant subpart, as follows:

((As an alternative to the daily monitoring of the discharge of NAF associated with drill cuttings required by Part II.B above, operators may instead implement additional BMPs in the BMP Plan, as specified in Addendum B to Appendix 7 of 40 CFR Part 435, Subpart A.))

Section V. should be deleted in its entirety and replaced with the language from the Existing Permit at section III.I. Language as recommended above to replace Section B.G. should also be included.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.259

AOGA supports reiteration of EPA's earlier interpretation of BMP Enforceability as discussed in the Response to Comments (p. 19). "In order to clarify the enforceability of BMP Plan requirements, the permit language has been changed to make it clear that the enforceable requirement of the permit section III.I is to develop an adequate BMP Plan to meet all of the stated objectives and requirements of Section I.I. The EPA considers all provisions of its permits to be enforceable, however, including requirements to prepare and implement a BMP Plan."

Response

Please reference the following in the Response to Comment Document:

Response # 227

Comment ID CI-127.260

EPA currently imposes the following controls to minimize discharge of toxic components in muds and cuttings:

- * effluent monitoring limits designed to meet water quality standards for metals for each discharged mud system;
- * analysis of representative samples of stock barite prior to drilling each well;
- * analysis for suspended particulate toxicity;
- * a chemical inventory of mud systems discharged; and
- * an end-of-well report detailing each drilling fluid system.

These requirements are already redundant and burdensome. Section VI requires a "drilling fluid plan" to be made available 7 days prior to commencement of discharges from a given well with a written notice to EPA using a special form in "Attachment 1" which does not exist in the Proposed Permit. EPA considered and rejected such a requirement when it renewed the Existing Permit. There is no reason to reverse that decision now.

Response

Please reference the following in the Response to Comment Document:

Response # 29

Comment ID CI-127.261

Section VI.C.3 states "A record of the operator's determination of how discharge is expected to comply with the 30,000 ppm SPP toxicity limitation ..." shall be provided. DOE, AOGA and numerous others commented during renewal of the Existing Permit, that mud plan requirements were not necessary to comply with the 30,000 ppm SPP limit. AOCA commented that the mud plan requirements exceeded EPA authority. Commenters presented evidence that such a plan would not achieve the goals of the Pollution Prevention Act or Paperwork Reduction Act, nor meet EPA's policy guidelines for implementation of regulatory control. Those comments are equally relevant to the current proposal, and are incorporated here by reference. EPA provided the following response to those comments when it issued the Existing Permit:

The EPA has removed the mud plan requirement from the permit. The intention of the mud plan was to provide a format for planning and using a mud/additive system in compliance with the permit. In the 1986 permit, the responsibility for conducting case-by-case evaluations of individual mud systems rested on the EPA. The final permit, however, not only shifts that responsibility to the operators, but contains a 30,000 ppm SPP BAT limit promulgated for the coastal oil and gas industry. The EPA is confident that the 30,000 SPP limit, which was not contained in the 1986 Cook Inlet permit, in combination with BMP requirements, will result in continued efforts by permittees to minimize the toxicity of drilling fluids. The same considerations should cause EPA to once again remove the drilling fluid plan from the Proposed Permit. AOGA is extremely troubled by EPA's obvious failure to review the administrative record regarding the history of the Cook Inlet Permit. The drilling fluid plan proposed has all the weaknesses and redundancies of the previously termed "mud plan."

Response

Please reference the following in the Response to Comment Document:

Response # 29

Comment ID CI-127.262

Also note that Fact Sheet Section III.B.5 (page 19) lists the well related information required by the applicant in the NOI. This section incorrectly represents the well information currently required for NOI under the Existing Permit and incorrectly states that the certification of a complete mud plan is required.

Response

Please reference the following in the Response to Comment Document:

Response # 29

Comment ID CI-127.263

It is impossible to determine how the requirements of this section provide additional protection beyond the imposition of discharge limits. These requirements illustrate an unfortunate pattern of telling facilities how to operate, rather than establishing limitations which companies will meet in the best and most efficient manner. Section VI should be deleted in its entirety and language from the Existing Permit at III.S.2.e and g should be moved to Section II.B.

Response

Please reference the following in the Response to Comment Document:

Response # 29

Comment ID CI-127.264

Section VII states, "Operators discharging greater than 100,000 gallons per day of produced water shall plan and conduct a study of the potential impacts of the discharge. Within six months after the effective date of this permit operators shall submit a study plan to EPA Region 10 for approval. At a minimum, the study must include collection of water column and sediment samples collected at 50 meter intervals over a grid extending a distance of 2,000 meters both north and south of the discharge point and 100 meters in width. Samples must be analyzed for total aromatic hydrocarbons, total aqueous hydrocarbons, copper, manganese, lead, (4) nickel and zinc. Samples shall be collected during the summer months and a final report submitted to EPA within two years after approval of the study plan."

The supporting documentation for the Proposed Permit provided limited additional information regarding the proposed environmental study. The Fact Sheet Summary of Proposed Changes (page 5) states, "EPA proposes to include a new study that will involve collecting ambient data to determine the effect of large volume produced water discharges on Cook Inlet." The Fact Sheet further states (page 47) that the only existing sediment data was collected well over 100 miles from the existing, large-volume produced water discharges. As explained below, this is incorrect.

Footnotes

(4) AOGA notes that the existing effluent limit for lead has been removed from the proposed permit, because the discharges have been demonstrated to have no reasonable potential to exceed water quality standards. See P. 41 of the Fact Sheet. It is; therefore, inappropriate to include lead among the constituents to be monitored in this study.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.265

The Environmental Assessment (EA) identifies this study in Section 4.14 as mitigation, stating it is required to "gain a better understanding of the potential impacts of the discharges." Yet, within the EA itself, EPA repeatedly notes there is neither evidence of impact, nor any expectation of impact from oil and gas discharges. See AOGA's comments on the draft Environmental Assessment, incorporated by reference herein.

The EA suggests that proposed "mitigation" measures are intended to increase the confidence of TEK interviewees in the monitoring conducted by permitted dischargers. EA at p. 2-1 1. It is a mistake for EPA to expect that additional studies and monitoring by the oil and gas facilities will resolve this concern. Among the views expressed in the interviews was a distrust of industry data. That will not be overcome by more industry data collection. That is amply demonstrated by the many concerns expressed in these interviews that are addressed by currently available data. It is EPA, rather than the regulated industry that is in the best position to respond to those concerns.

Response

The discussion of mitigation measures has been removed from the EA. Mitigation measures are typically included to address significant impacts to the environment. Since no significant impacts have been associated with reissuance of the NPDES general permit, the discussion of mitigation measures is unnecessary. Note that the items identified as mitigation measures have been retained in the final permit.

Comment ID CI-127.266

The EA demonstrates that there are no significant, unmitigated impacts from oil and gas discharges to Cook Inlet. At the same time, the TEK interviews show that there are problems with communicating risks to the communities where the interviews were conducted. This is clearly demonstrated by the questions about oil and gas operations listed on 3-116 - 3-117. EPA has available to it today information that responds to most, if not all, of these questions. EPA should use its position as a trusted source of information to help the communities understand the true nature of risks posed by oil and gas discharges. That would be a far more appropriate exercise of EPA's trust responsibility to these communities than imposing "mitigation" measures that will not respond to and will not assuage their concerns. Rather than impose expensive and unnecessary conditions on oil and gas discharges, EPA should engage in a dialogue with the Alaska Native communities, and respond to the concerns they expressed in the TEK process.

Response

The discussion of mitigation has been removed from the EA. As discussed in the response to the previous comment, the studies remain part of the requirements in the final permit.

Comment ID CI-127.267

AOGA strongly objects to the imposition of this study because it is unwarranted, logistically infeasible, economically unreasonable and redundant to past and ongoing scientific research.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.268

Information contained in the same document in which EPA first proposes the study – the EA demonstrates that the proposed study is, in fact, unwarranted. There are a number of statements in the EA that support this conclusion, including the statements set out below:

* Section 3.4 Marine Water Quality (p. 3-20) discusses the dispersion and dilution that occurs as a result of tidal processes in Cook Inlet. It notes that substances that remain in suspension or dissolved in the water column are dispersed by tidal currents and winds, and that 90 percent of waterborne contaminants would be flushed from Cook Inlet in 10 months.

* Section 2.2.4.3 -Produced Water (p. 2-14) explains that produced water discharges will only be allowed by existing facilities under the preferred alternative. However Section 2.2.6.8 - New Study Requirements (p. 2-31) proposes the new ambient study to determine impacts of produced water from large volume dischargers. Since only existing facilities would be permitted to discharge produced water, only existing facilities would be impacted by this requirement. However, Section 2.5 - Alternative 4 (p. 2-33), which only affects existing facilities, states that the proposed fate and effects monitoring requirements would not be required. The intent of the study and the intent of the Proposed Permit are contradictory.

* Section 4.12 - Environmental Justice (p. 4-13) states, "No significant adverse impacts have been identified for any of the resources addressed in this EA. Therefore, a finding of no EJ [Environmental Justice] impacts is appropriate."

* Section 5.1 -- Findings (p. 5-8) states that no mitigation measures would be required under Alternative 4 (No Action). This infers there are no adverse environmental or socioeconomic consequences from existing oil and gas dischargers. Therefore, an environmental study is unwarranted.

Response

EPA disagrees that the findings within the EA demonstrate that the proposed study is unwarranted. Regardless of the understanding of the role tidal processes play in flushing contaminants from Cook Inlet on the large scale, no ambient monitoring studies have been conducted to date. This information represents a data gap that is directly tied to discharges under the General Permit.

Section 2.2 discusses the Proposed Action, which includes the new study requirements. The new study requirements are, as stated, new permit conditions applicable only to existing discharges. Section 2.5 discusses the No Action which would simply reissue the existing permit and maintain the associated monitoring requirements; therefore, the alternative establishes no new requirement or monitoring, including no new study requirement.

The fact that no adverse impacts have been identified for Environmental Justice or any other resource for that matter, does not mean that additional studies are unwarranted. As stated elsewhere in these responses, while the existing data is has not identified oil and gas activities as a source of contaminants, the data is insufficient to draw firm conclusions about any potential sources. EPA

believes that additional data is necessary to fully characterize the potential for these discharges to affect water quality within Cook Inlet. This is particularly important since the volume of produced water discharges will increase during the term of the permit and presumably beyond.

Comment ID CI-127.269

The proposed study design - intensive sampling within mixing zones cannot achieve EPA's purpose, stated in the Fact Sheet at page 47, of determining "if there is a reasonable potential for large volume produced water discharges to impact sensitive areas of Cook Inlet." The results would not be indicative of ambient Cook Inlet conditions, nor would they provide any indication whether discharges are having any impact outside of the proposed mixing zones.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-127.270

The proposed study is not represented as an effort to validate modeling, yet it requires sampling within the discharge plume, centered around the discharge point. EPA has, through extensive research, validated models used for determining dispersion of chemical constituents from point source discharges. Modeling conducted to EPA specifications is the very basis of established permit limits and is recognized to reflect a series of conservative assumptions. The proposed study is not represented as an effort to validate modeling, yet it requires sampling within the discharge plume. Sampling within the plume can provide no additional information about concentrations of discharge constituents beyond that which is demonstrated through modeling. Similarly, sampling conducted inside proposed mixing zones would not provide information relevant to ambient water quality in Cook Inlet.

EPA personnel have repeatedly expressed their confidence in the results of discharge modeling. For example, page 54 of the Response to Comments states, "The mixing zones contained in the final permit were sized using dilutions which were estimated using mathematic models. The modeling runs, which were performed ..., used a wide range of tidal current speeds and seasonal conditions to determine conditions which would require the largest mixing zone. Because the mixing zones represent "worst case" conditions, the EPA feels that a mixing zone verification study would not provide any information that would have a significant impact on permit conditions." As stated on page 2-20 of the EA, "...mixing zones were established for reasonable worst ease conditions".

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.271

The Fact Sheet justifies the studies in part based on comments received through Traditional Ecological Knowledge (TEK) interviews. The input received through those interviews is summarized in the Fact Sheet at pages 48-49. Among the statements contained in this section is a belief by the respondents that there is no mechanism for removing pollutants from Cook Inlet, and that pollutants have the potential to accumulate in Cook Inlet over time. These assertions are refuted by the observed facts regarding Cook Inlet's physical processes, discussed in the EA. For example, the EA states (at p. 4- 14):

Cook Inlet is a high-energy environment. Fast tidal currents and tremendous mixing produce rapid dispersion of soluble and particulate pollutants. For example, the turbidity caused by suspended particulate matter in drilling fluids and cuttings discharges is expected to be diluted to levels that are within the range associated with the variability of naturally occurring suspended particulate matter concentrations in Cook Inlet within a distance of between 100 and 200 meters from the discharge point or from oil and gas facilities.

The EA also recognizes that studies by MMS have shown that 90 percent of pollutants would be flushed from the Inlet within 10 months, and that the flushing rate is relatively invariant from season to season. EA at p. 3-20. Furthermore, there has been extensive study of the Cook Inlet environment, as discussed more fully below, and there are no indications that oil and gas industry activities have had any impact on subsistence resources or the Cook Inlet environment.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-127.272

The proposed study methodology is also logistically infeasible. Cook Inlet has a current speed of 8 knots, or a little over 4 meters/second. The study calls for sampling both the water column and the sediment at 50-meter intervals over a grid that is 100 meters wide and 4,000 meters long (running north-south from the discharge point(5)). At a current speed of 4 meters/second, it would take only 12 seconds before a column of water located at one sample point becomes the column of water for another sampling point.

Footnotes

(5) The permit language states that samples shall be taken "over a grid extending a distance of 2,000 meters both north and south of the discharge point", while Section 2.2.6.8 -New Study Requirements (p. 2-32) of the draft EA states that sediment and water samples will be collected "over a distance of 2,000 meters between the discharge point and the closest sensitive habitat". This language is inconsistent.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.273

Logistical challenges aside, EPA is imposing an extremely costly study requirement on discharges that are not particularly significant in volume given the nature of the receiving waters.(6) As discussed above, the study calls for sampling both the water column and the sediment at 50-meter intervals over a grid that is 100 meters wide and 4,000 meters long. A total of 240 stations must be sampled. The requirement is applicable to three facilities which meet the definition of large discharger of produced water, resulting in a total of 720 stations that would require sampling.

Footnotes

(6)The Fact Sheet refers to dischargers larger than 100,000 gallons a day as "large discharges". 100,000 gallons a day is equal to about 0.15 cubic feet per second, which in nature is a very small stream.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.274

The following discussion summarizes potential costs of the proposed environmental study. The estimated costs below assume that 40 sediment and 40 surface water samples would be collected (one sediment and surface water sample every 50 m along a 2,000 m transect) and that each sample would be analyzed for the limited parameters, namely copper, mercury, manganese, nickel, zinc, TAW (benzene, ethylbenzene, toluene, xylene), TAqH (TAH + polycyclic aromatic hydrocarbons [PAHs]), and ammonia. Cost estimates for chemical analyses and equipment rental are included. Cost estimates not included are labor and possible direct expenses related to travel, such as airfare and hotel accommodations. Refer to Attachment, Table 5

The following summarizes potential costs of this requirement illustrating that analytical costs would be excessive. The estimated costs below assume that 40 sediment and 40 surface water samples would be collected (one sediment and surface water sample every 50 m along a 2,000 m transect) and that each sample would be analyzed for the limited parameters, namely copper, mercury, manganese, nickel, zinc, TAI-I (benzene, ethylbenzene, toluene, xylene), TAqH (TAH + polycyclic aromatic hydrocarbons [PAHs]), and ammonia. Cost estimates for chemical analyses and equipment rental (e.g., boat, sediment samplers) are included. Cost estimates not included here are labor hours and possible direct expenses related to travel, such as airfare and hotel accommodations.

Potential analytical costs were estimated based on typical standard pricing for laboratories with which AOGA's members currently contract. Assumptions were made regarding the most appropriate analytical methods with the understanding that laboratories could propose alternative methods for consideration. The analytical costs are estimated to be approximately \$38,400 per transect (Table 1). The estimated cost assumes that water samples would be analyzed for total metal - the cost estimate would be higher to filter the samples (~\$10/sample). Costs would also be higher if additional methods were required because of the saltwater matrix or if "low level" analytical methods were used.

ATTACHMENT

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.275

Equipment needed to conduct sampling includes a boat and a sediment sampler. AOGA's members contacted a marine equipment rental dealer in Alaska. For the conditions in Cook Inlet, the dealer recommended a larger 40-45' boat, which this particular Alaska dealer leased out for \$2,400 per day. If the sampling transects reach relatively shallow water, a boat with a landing-craft type of design may also be necessary. The dealer's price for this type of craft was \$3,500 per day. The high current speeds make sampling difficult and will require dropping an anchor at each sampling point. Further, the tidal cycles limit the number of hours per day that samples can feasibly be collected. Given these limitations, an experienced field sampler suggested that it could take as long as 2-3 weeks (10-15 working days) to collect 40 samples, as the sample collection rate will be a function of weather & sea conditions, and timing of the tidal cycles. Additionally, with a current speed of 8 knots (~4 meters/sec), it would be difficult to accurately anchor a boat in the correct position to collect a sample. It would be extremely time consuming and difficult to try it 720 times.

Depending on the sediment substrate, more than one type of sediment corer may be necessary along the transect. These costs range roughly from \$50 per day to \$250 per day for a vibracorer. The corers also require butyrate liners, which may cost \$25 per sample. Shipping costs would be additional.

If 10 sampling days are assumed, the boat rental cost would be on the order of \$24,000 and sediment samplers could cost on the order of \$5,000 if rental, shipping, and liner costs are considered. (These costs could be higher if more than one type of sediment sampler is required.)

It is roughly estimated that analytical chemistry, boat rental, and equipment rental could cost on the order of \$70,000 for each transect or over \$1.2MM for sample collection. These costs could significantly increase following additional research. For example, the boat rental cost is based on a quote from just one rental company. Further, this cost estimate does not include any labor costs or potential travel expenses. In addition to the labor provided on the boat, labor will be expended mobilizing prior to and demobilizing after the sampling event. Factoring in labor costs and other direct expenses, the cost for sampling each transect is estimated to be on the order of \$85,000, or a sample collection cost of \$1.5MM per facility.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.276

Ambient sediment and water quality data for Cook Inlet are readily available. EPA incorrectly states that there are no meaningful data available regarding ambient sediment and water quality in Cook Inlet. The following discussion describes in detail a recently completed study program, and provides a list of additional studies that have been conducted in Cook Inlet. Based on the information available, there is no reason to conduct extensive water column sampling.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-127.277

The Fact Sheet discussion of the new study requirements states that little ambient data exists in Cook Inlet (Page 47). However, this is not the case. The Southcentral Alaska Survey, which was the first survey in Alaska's Environmental Monitoring and Assessment Program (EMAP) was conducted in 2002. EPA sponsors the EMAP program. The study was a cooperative effort involving EPA, NOAA/NMFS, ADEC and CIRCAC. The EMAP study design was developed cooperatively by the above agencies.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.278

A 53-slide presentation by Susan Saupe of CIRCAC is available on the web (7) describing the Southcentral Alaska EMAP studies. A short Summary Report for the 2002 Southcentral Alaska EMAP Survey (Summary Report) was released in March of 2006. (8) Unfortunately, the results of these data are not yet available to include in these comments regarding the General Permit. Consequently, discussions herein regarding the study and the data are Limited to information available from the presentation and the Summary Report. The interpretation by the researchers involved, presented in the Summary Report, does not find any significant issues that could be related to the oil and gas producers of Cook Inlet.

The 2002 Southcentral Alaska Survey was a systematic survey conducted in order to address environmental concerns. The Chief Scientist on the field-sampling program and the principal author of the Summary Report is Susan Saupe of CIRCAC. The EMAP Survey included 15 stations in Cook Inlet. "Many of the shallowest stations occurred in near shore areas of Cook Inlet, areas known for wide inter-tidal depth fluctuations and extensive sediment depositional zones." (Summary Report, p. 2). The study design was a probability-based sampling with a statistical survey design intended to provide an unbiased estimate over a large geographic area from a small number of samples. The study looked at habitat indicators, benthic condition indicators and exposure indicators. A description of these different indicators and the study results follows.

Habitat indicators included continuous water column profiles for dissolved oxygen, salinity, depth, and temperature; instantaneous surface measurements of pH, total suspended solids (TSS), chlorophyll a concentration, transmittance Secchi depth, and nutrient concentrations (nitrates, nitrites, ammonia and phosphate); and composite samples of sediment to determine the percent of silt-clay.

Water clarity in Southcentral Alaska estuaries is rated fair. Water clarity was rated poor at a sample site if light penetration at 1 meter was less than 10% of surface illumination. Only four sites, located in Upper Cook Inlet area, had light penetration at 1 meter less than 10% of surface illumination, and these were attributed to very high loadings of glacial river sediments, and are naturally occurring conditions.

Chlorophyll a concentrations (a measure of phytoplankton biomass) are rated good. There were no cases observed in which concentrations of chlorophyll a exceeded 5 ug/L. The report notes that many Alaska estuaries have large inter-tidal areas, so nutrient utilization by benthic algae may be of greater importance than nutrient uptake by phytoplankton.

Dissolved oxygen conditions were rated good, with no cases in which concentrations fell below 5 ppm. The study noted that the measured values do not preclude seasonal, depth or other conditions that may result in lower oxygen levels.

The summary noted that dissolved inorganic nitrogen concentrations were rated good (low is considered good), while dissolved inorganic phosphorous concentrations were rated fair. The summary also noted that upwelling (a natural condition) is an important contributing factor to nutrients in these waters.

The benthic condition indicators included composite sediment samples for infaunal species

composition, infaunal abundance and infaunal species richness and diversity; composite samples from trawls for Fish species composition, fish abundance, and fish species richness and diversity; and visual assessment for external pathological anomalies in fish.

The Summary Report noted that sediment condition as measured by a benthic index could not be evaluated because there is currently no benthic community index applicable for Southcentral Alaska. Attempts to estimate species richness as an approximate indicator of condition were unsuccessful.

The exposure indicators included composite sediment samples for sediment contaminants, and composite trawl samples for fish tissue contaminants. Sediment contaminants were evaluated both by specific chemical analysis and by sediment toxicity testing using a static 10-day acute toxicity test with the amphipod *Ampelisca abdita*. Contaminants analyzed included metals, PAHs and aliphatics, and persistent organic pollutants (POPs)(9). Contaminant observations were compared to effects range median (ERM) and effects range low (ERL) guidelines.

One station AK02-005 had sediments deemed toxic by the bioassay test, and the station also had the highest chromium and nickel sediment levels of any of the EMAP Southcentral sites sampled. The station is located near shore by the eastern side of the entrance to Cook Inlet. The Summary Report notes that the trace metals are likely elevated due to the historic chromium mining occurring in the area. Also to note is that the location by the eastern side of the entrance to Cook Inlet experiences a net inflow into Cook Inlet, so the contaminants present could not be from any of the oil production facilities.

The Summary Report does not identify concerns with any site for sediment concentrations of PAHs and aliphatic compounds or persistent organic pollutants. Elevated total organic carbon in sediment was generally not a concern. Where it was elevated, it was viewed as being deposited from natural rather than human derived sources.

The report noted there were no sites sampled where whole-body fish tissue contaminant levels exceeded human risk-based criteria guidelines. The study focused on fish that feed along the bottom, such as flatfishes (10). Subsistence species, such as salmon, were not sampled as part of the EMAP assessment because their contaminant levels could not specifically be related to the local site sediment and water quality data collected.

ATTACHMENT

Footnotes

(7) This presentation can be found on the web at

www.epa.gov/emap/html/pubs/docs/groupdocs.symposia/symp2004/presentations/SusanSaupe.pdf

(8) See, <http://www.dec.state.ak.us/water/wqsar/pdfs/EMAP%20folio1.pdf>

(9) See slide 26 in the power point presentation by Susan Saupe

(10) Typically these consisted of arrowtooth flounder, flathead sole, yellow fin sole, species that live on or within sediments much of the time.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.279

The proposed study is not appropriate. For the reasons explained above, a plume study such as called for in section VII of the proposed permit would be entirely inappropriate. It would be infeasible, inordinately expensive, and duplicative of the modeling done in conjunction with the permit application. It also would not produce data in any way relevant to the concerns expressed in TEK interviews, which provide EPA's sole justification for requiring this study, and which relate to biological resources that EPA acknowledges in the EA and elsewhere are unlikely to be found in waters near the produced water discharges. AOGA also believes that once EPA familiarizes itself with the extensive existing and ongoing studies of Cook Inlet outlined above, it will recognize that an additional study is not warranted. However, if EPA nevertheless insists on requiring an additional study, it should substantially revise this portion of the Proposed Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.280

Any study requirement should expressly identify the objective of the study, which should relate to the potential impact of produced water discharges on ambient conditions in Cook Inlet, not impacts inside approved mixing zones. The schedule also would have to change from the Proposed Permit, at a minimum requiring the permitted facilities to submit a study plan to HPA within one year and complete the study within three years following approval of the study plan. The schedule contained in the Proposed Permit is unrealistic and infeasible, particularly given the scope of the suggested sampling program. The analysis of data collected in 2002 for the Environmental Monitoring and Assessment Program (EMAP) discussed above is just becoming available now, four years later.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.281

All directions regarding the location and number of samples, the list of analytes, and sampling season must be removed from the proposed permit. The proposed sample design is inappropriate, for reasons already discussed. As an example of just how excessive the plan contained in the proposed permit would be, with its 480 samples per outfall, a study conducted by Washington State addresses the issue of sampling stations relative to point sources, and notes the following for baseline sampling, "Ecology has found that a range from about 6 to 18 stations will generally suffice for most situations."(11) of any such direction is provided in the permit, it should be limited to requiring that the planned study must complement data collected in the EMAP study, and the study plan must be consistent with the protocols used by EMAP.

Footnotes

(11) See, page 39 in, Washington Department of Ecology, 2003, Sediment Sampling and Analysis Plan Appendix, Publication No. 03-09-043. <http://www.ecy.wa.gov/pubs/0309043.pdf>

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-127.282

Sections VIII.A.2 and 3 should be deleted entirely. VII.A.2 and 3 would require collection of samples "whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation" and require that the sample be collected "as soon as the spill, discharge, or bypassed effluent reaches the outfall." There are several problems with these provisions. First, these are not standard permit conditions set forth in 40 CFR 122.41 or elsewhere in EPA's regulations.

Second, Section VIII.A.2 is vague, in that it does not identify a recognizable triggering event for the obligation to collect an additional sample. If the intent is to require samples in the event of a spill, upset, malfunction, or similar event that may result in an exceedance, then the provision should state as much. As written, it calls for a subjective determination whether a discharge, including a routine discharge, is likely to cause, or even contribute to a violation. This is an invitation to debate over whether a permittee incurs a violation simply by failing to take samples not otherwise required by the permit.

Third, VIII.A.3 is inconsistent with the monitoring protocols associated with most discharges. Very few discharges are sampled at the outfall. Instead, there are sampling locations installed at locations in the discharge piping appropriate to the particular discharge.

AOGA recommends that VIII.A.2 and 3 be deleted. The due date for DMRs should be restored to the 20th day of the month, as in the Existing Permit. Section VIII.B requires that monitoring reports be "postmarked by the 10th day of the following month" This requirement is infeasible. The highly technical analytical tests required by this permit cannot be conducted with results made available to operators in time to meet this deadline. It is standard practice for laboratories performing standard chemical analysis to have results available within 10 business days, as such it is practically impossible to review and report results by the 10th as proposed, particularly for samples collected near the end of the month. In addition, laboratories do not always achieve this deadline for samples collected in Alaska. Samples are frequently transported out of state for analysis. In spring and summer months, laboratories are overwhelmed by the high volume of samples associated with seasonal work in Alaska. Permittees and laboratories are hard pressed to have results available for samples collected near or within two weeks of the end of the month.

Response

Please reference the following in the Response to Comment Document:

Response # 228

Comment ID CI-127.283

[VIII.B]

Many of the new analytical tests rely on a very limited number of laboratories. As previously discussed, a limited supply of organisms for WET testing is expected to cause delays in a permittee's ability to report results by the 10th especially if EPA does not modify the required organisms. There is only one supplier (Aquatic BioSystems, Fort Collins, CO) for the topsmelt species, which is used for testing along the entire west coast. The supplier and laboratories will have a difficult time meeting the method and reporting requirements while processing large volumes of samples in a limited time frame.

As compared to standard chemical analysis, WET testing inherently requires more labor and time intensive steps which can cause delays in reporting sample results. Each test requires setting up four replicates of effluent test concentrations. Once the test has been completed, within 48 hours the laboratory analyst must count all the organisms in each replicate using a compound microscope. For a simple mytilus test, an analyst can spend half a day counting organisms alone. Similarly this same counting requirement will be necessary with other species - echinoderms and sand dollars. Laboratory personnel may be able to provide preliminary sample results within two weeks of sample collection; but additional time is necessary to evaluate and verify quality control and ensure method criteria are met as well.

The result is what it is. Rush reporting only increases the likelihood of otherwise avoidable and unnecessary errors. In the event of incidents of non-compliance, EPA would be notified per condition VIII.G.

Response

Please reference the following in the Response to Comment Document:

Response # 299

Comment ID CI-127.284

AOGA commented on the Existing Permit that "reporting toxicity, hydrocarbon and metals results by the tenth of the following month may not be feasible given that it takes 30 to 45 days to receive the final reports." In the Response to Comments, EPA agreed, "Section IV.A. of the final permit has been modified to state that monthly reports shall be postmarked by the 20th day of the following month, and that quarterly sampling results shall be reported on, or before the March, June, September, and December DMRs."

AOGA urges EPA to retain the due dates for DMRs specified in the Existing Permit, Section IV.A which states, "The Permittee must submit reports monthly, postmarked by the 20th day of the following month." and annual sampling results should be required on the March DMRs.

Response

Please reference the following in the Response to Comment Document:

Response # 229

Response # 230

Comment ID CI-127.285

The agency should also clarify the WET testing reporting requirements. AOGA urges EPA to incorporate the following language:

Section VIII.B. Reporting of Monitoring Results. The permittee must sign and certify all DMRs and all other reports in accordance with the requirements of Section X.E. ("Signatory Requirements") of this permit. The permittee must submit legible originals of these documents to the Director, Office of Water and Watersheds, with copies to ADEC, at the addresses in Section I.G ("Submission of Information").

1. ((Non-WET Test Data. The permittee must summarize monitoring results each month on the DMR form (EPA NO. 3320-1) or equivalent. The permittee must submit reports monthly, postmarked by the 20th day of the following month.))

2. ((WET Test Data. The permittee must summarize WET test monitoring results on the DMR form (EPA NO. 3320-1) or equivalent. Data must be reported by the 20th of the last month of a quarter following the one in which WET testing was conducted.))

The above language will correct inconsistencies between Sections VIII.B and III.A.1.b which modifies reporting requirements to accommodate seasonal variability of organisms, e.g., Dec-Feb for mussels; June through Aug. for oysters. VIII.B. requires annual reporting on the January DMR. Thus, a WET test conducted in February would be reported 10 months later; or a test conducted in June, reported 6 months later.

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 48

Response # 8

Comment ID CI-127.286

Section VIII.B Reporting of Monitoring Results should provide for electronic reporting. Throughout the Proposed Permit, plans and reports, including monthly DMRs, are required to be submitted in writing and postmarked providing legible originals. Technology has advanced to enable these documents to be submitted with secure certification electronically. Electronic submittals could provide an added benefit of allowing direct input to EPA data bases without introducing possible transcription errors.

AOGA requests electronic submittals with electronic signatures be approved.

Response

Please reference the following in the Response to Comment Document:

Response # 41

Comment ID CI-127.287

Section VIII.B should also clarify that only information regarding discharges that occurred during the month must be reported on DMRs. It should not be necessary to submit multiple forms stating that "no discharge occurred."

Response

Please reference the following in the Response to Comment Document:

Response # 230

Comment ID CI-127.288

As requested in comments above in this document regarding Pages 29 and 42 of the Proposed Permit, Section VIII.C should be amended as follows: "The permittee must conduct monitoring according to test procedures approved under 40 CFR Part 136, ((or Alaska Standards)), unless other test procedures have been specified in this permit. For Alaska water quality standards. ((For analysis of Total Aromatic Hydrocarbons (TAH) and Total Aqueous Hydrocarbons (TAqH) all analytical requirements cited in the Alaska Standards, 18 AAC 70.0209(b) are applicable".

** Where AOGA recommends specific changes in permit language throughout these comments, new language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 163

Response # 171

Comment ID CI-127.289

VIII.G.2 should be clarified as follows, "The permittee must also provide a written submission with five business days of the time ..."

Response

Please reference the following in the Response to Comment Document:

Response # 231

Comment ID CI-127.290

There is a typographical error in IX.F.2.b which should be corrected, "a((s)) required."

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 232

Comment ID CI-127.291

In order to maintain consistency with the Existing Permit, AOGA requests the following general conditions be inserted:

Oil and Hazardous Substance Liability

((Nothing in this permit must be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Act.))

Severability

The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid. The application of such provision to other circumstances, and the remainder of the permit, must not be affected thereby.

Reopener Clause

This permit is subject to modification, revocation and reissuance, or termination at the request of any interested person (including the Permittee) or upon EPA initiative. However, permits may only be modified, revoked or reissued, or terminated for the reasons specified in 40 CFR 122.62 or 122.64, and 40 CFR 124.5. This includes new information which was not available at the time of permit issuance and would have justified the application of different permit conditions at the time of issuance and would have justified the application of different permit conditions at the time of issuance including future monitoring results. All requests for permit modification must be addressed to EPA in writing and must contain facts or reasons supporting the request.

AOGA had requested insertion of the Reopener Clause during comments for the Existing Permit to allow a Permittee to apply for revised mixing zones and dilution factors as additional data became available. The EPA granted this request and the Clause was added to the General Provisions section. AOGA requests that the Reopener Clause be inserted in to the General Provisions section of the Proposed Permit.

Duty to Reapply

AOGA requests that this clause be relocated to Section 1 "Applicability and Notification Requirements" to maintain consistency with the Existing Permit.

Duty to Provide Information

AOGA requests that the typographical error be corrected to be consistent with the language of 40 CFR 122.41(h). "The Permittee must furnish to the Director and ADEC, within a[NY] reasonable time ..."

**** Where AOGA recommends specific changes in permit language throughout these comments, new**

language is underlined and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 233

Comment ID CI-127.292

Response

Response to Public Comments Submitted By:

Author Name: Marta P. Czarnezi

Organization: ConocoPhillips

Comment ID CI-380.001

ConocoPhillips Alaska, Inc. ("CPAI") submits the following comments on the draft proposed National Pollutant Discharge Elimination System ("NPDES") General Permit for Oil & Gas Exploration, Development and Production Facilities Located in State and Federal Waters in Cook Inlet ("proposed permit") issued by the Environmental Protection Agency ("EPA). In addition to the comments set forth below, CPAI fully endorses the comments submitted by the Alaska Oil and Gas Association regarding the proposed permit.

CPAI owns and operates the Tyonek A platform ("the Tyonek Platform") located in upper Cook Inlet at latitude 61°04'36" N and longitude 150°56'54" W. Sanitary Wastes (Discharge Number 003) are currently released from the Tyonek Platform. CPAI operates a biological treatment unit at the Tyonek Platform, and has managed the Tyonek Platform as an MIO facility since March 2003. The sanitary waste stream is released in very low, batch volumes.

Tables 3-A and 3-B of Section 11.D of the proposed permit states that grab samples for all parameters shall be collected and analyzed on a monthly basis. While this requirement is consistent with the wastewater sampling frequency and requirements of the existing NPDES permit (AKG285000), this frequency is not consistent with requirements of other general permits issued by the EPA for Cook Inlet, which are currently in effect. For example, Section 11.C.3 of Permit AKG570000 for Small Publicly Owned Treatment Works ("POTW") and Other Small Treatment Works Providing Secondary Treatment of Domestic Sewage and Discharging to Freshwater ("POTW Permit"), specifically refers Director, Office of Water and Watersheds to facilities with design flows at or below 5,000 gallons per day of effluent. Table 6 in this section of the POTW Permit requires a quarterly sampling frequency for 5-day biological oxygen demand ("BOD₅") and total suspended solids ("TSS").

The design flow of the biological treatment unit at the Tyonek Platform is also 5,000 gallons per day. However, a monthly sampling frequency for BOD₅ and TSS has been imposed on CPAI for a waste stream that is identical in characteristics to that of small POTWs.

CPAI requests that the monitoring frequency in the proposed permit for CPAI's Sanitary Waste discharges be reduced from monthly to quarterly, as is allowed by Permit Number AKG570000 for small POTWs. CPAI appreciates the opportunity to comment on the proposed permit and your consideration of these comments when evaluating the final permit.

Response

Please reference the following in the Response to Comment Document:

Response # 32

Response to Public Comments Submitted By:

Author Name: Greg Duggen

Organization: N/A

Comment ID CI-640.001

My name is Greg Duggen and I've been here since 1979. I've watched the fish come and go, big runs, small runs. Been in the oil industry since '84. I cannot see any correlation between the oil industry and the runs. It's either overfishing, underfishing. That's been regulated, they have done a better job, and that's part of government regulation, that's fine.

Problems I have, the oil industry is not treated the same as the municipalities. We have our sanitary waste, per se. Our regulations out in the middle of the Cook Inlet, sanitary waste, the total suspended solids are a very small, little window, and there will be six guys out there most times.

Anchorage, Alaska has got 300,000 people, and their regs are ten times higher, and that's going right into the Cook Inlet. Soldotna's sanitary waste goes right into the river. Kenai's sanitary waste is half a mile from the Kenai River. All I'm asking is for you guys to say, hey, why is the oil companies' regulations so stringent on the sanitary waste, and there is a double standard. Municipalities can do whatever they want, they can have ten times the suspended solids as the oil companies, that's not fair and not right.

We solved our problem, we're now injecting it down hole, we're out of the loop, we're not going overboard. Oil companies never do anything. We've spent a lot of money to do that. We've got to pressurize it up to 3500 pounds and inject it down hole. We spent a lot of money about that. So anybody that says the oil companies aren't doing this, we are, we're doing whatever we can to meet these regulations. But we just want to be treated fairly. You can't look at a municipality and look at an oil company differently.

Pollution is pollution. If that's what you're calling it, then let's find the level and everybody be on the same playing field, and that's all I'm asking.

I mean, this is my Inlet, I fish and hunt here, and I just have a big problem with regulations against the big deep pocket when you've got municipalities, that their regs are as high as you can get, and it's crazy.

We have five guys on a platform and we had a little bit too much suspended solids with five guys. The fishing boats are dumping it overboard. So now we're getting fined because we have an exceedance. And so now we gave up on it, now we're going down hole and we're done with it. It costs hundreds of thousands of dollars and that's just one instance.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-640.002

This WET testing that you're proposing on all these streams is -- it's going to cost us millions, and it's not right. And I just want you to understand that when you deal with an oil company, and there is a lot of emotion here, there is fishermen -- hey, I'm all for the fishermen. We've been here 40 years and the fish are still here. And the runs come and go, there are big runs and small runs, but nobody has ever said -- geez, probably my wife. Honey, I'm talking in front of the -- bye.

I just want fairness, that's all I want. And that's all the oil industry wants. And I think you guys are doing a great job, but you've got to look at some of the regulations that are coming out. And that's all I'm going to say. Thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Response to Public Comments Submitted By:

Author Name: Neal Duperron

Organization: Oil Industry

Comment ID CI-620.001

I'll make this as brief as possible. I'm Neal Duperron, I also work in this area, live in this area, my wife's family is from this area, I have kids here, my parents, nephew, nieces.

I currently work in the oil industry. Little bit of my background is I used to work for the legislature, so I know from a different standpoint than some of these other folks have here. I know the State of Alaska, we're one of the most heavily regulated people for the oil industry, we have so many rules and regulations, and in order to do business here I know that any more added burden for them is going to shut down some of their production here.

We already know that the fields in Cook Inlet are aging and near their life capacity, and if we put these more restrictions on them, we're not going to be able to explore to find any more known reserves out there. And they are going to shut down in the next 10, 15 years, we won't have the XTOs, ConocoPhillips, BP, and they are going to close up and affect this economy because we're going to lose thousands of jobs and millions of dollars of tax revenues that help support the schools and hospital. And I sit on the service area board for that.

So I think they already, CIRCAC, and what's the other one out north, CIRI, they already regulate themselves and do the testing. And I've seen test after test and study after study in the years I was down in the legislature, and now working for the industry out there, I have seen no credible difference where the oils just harm the fish out there. And I know commercial fisherman, Dr. Roland Maw, I know him personally and he's a good friend and I respect the man, and I respect the commercial fishing industry and the sports fishing industry. But I don't see if we regulate the oil industry any more how this is going to help my community, my economy, and I will be forced to leave an area for which I love and plan on living here the rest of my life.

My wife and I just bought a home three blocks down the road from here, and we'll be moving there next month. And if we do that I'll be forced to look for a job and sell the house and move, and I don't want to see that happen. I think the oil industry is doing a fantastic job and I think we need to leave it the way it is.

And I need to echo Robert Peterkin's statement. You guys are staying up late, listening to a whole bunch of us, some of us may be whackier than others, but I appreciate you putting your time and effort into this. Thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: Robert Elder

Organization: Forest Oil Corporation

Comment ID CI-160.001

Forest Oil Corporation (Forest Oil) operates one offshore oil and gas production platform (the Osprey) and three onshore production facilities in Upper Cook Inlet, Alaska. In addition, Forest Oil has offshore leases in Cook Inlet that it would like to develop in the future. As both a current, and possibly a future operator of several facilities that could be subject to the new General NPDES Permit, we offer the following comments on the draft:

Response

Thank you for your comments.

Comment ID CI-160.002

Discharge Prohibitions

The draft permit specifically prohibits discharges of produced water and drilling from new facilities in Cook Inlet. Also, the legend for the "striped" area on Figure 1 states "General permit will authorize discharges from exploration facilities and existing development and production facilities". This implies that all discharges from new production facilities will be prohibited in Upper Cook Inlet. These prohibitions would severely limit the development of existing and new leases in Cook Inlet. The prohibitions also are not consistent with effluent limitation guidelines for coastal and offshore subcategories which set technology-based limits for new sources. The prohibitions should be removed from the permit.

Response

Please reference the following in the Response to Comment Document:

Response # 11

Comment ID CI-160.003

Effluent Limitations and Monitoring Requirements for Drilling Fluids and Drill Cuttings (Discharge 00 1) Table 1 places limits on and requires monitoring of Hg, Cd, PAH, sediment toxicity, and biodegradation rate for non-aqueous stock base fluids but non-aqueous fluids are prohibited from being discharged. This requirement should be either removed or its application clarified.

Response

Please reference the following in the Response to Comment Document:

Response # 12

Comment ID CI-160.004

Requirements for Drilling Fluids and Drill Cuttings (Discharge 001), End of Well Reports

The name and total amount, and the maximum concentration of each "constituent" in discharged drilling fluid must be reported in end-of well reports. The term constituent should be clearly defined and should not mean a complete analytical inventory of all chemical compounds.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 13

Comment ID CI-160.005

Requirements for Drilling Fluids and Drill Cuttings (Discharge 001), Environmental Monitoring Requirements: The draft permit requires environmental monitoring for new exploration facilities with the intent of measuring exploration-induced changes in the environment over time and, if warranted, adjusting operations to minimize impacts. Typically, an exploration project would involve no more than about a month of drilling. It would be difficult, if not impossible, to develop and implement a meaningful monitoring plan with response mitigations to minimize, environmental impacts in such a short time. This requirement is also duplicative of additional studies and environmental assessments that have already been done by other entities, including CIRCAC, EPA and NFMS. Remove the requirement for exploration monitoring.

Response

Please reference the following in the Response to Comment Document:

Response # 14

Comment ID CI-160.006

Forest Oil appreciates the opportunity to comment and for the extended comment period granted by EPA. We also recognize the effort that EPA has put into the development of this permit and the many positive aspects that now appear in the draft.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Harriet Epstein

Organization: N/A

Comment ID CI-200.001

Has the EPA gone nuts? Why would you consider allowing more toxic pollution of Cook Inlet's coastal fisheries? You should be REDUCING toxic dumping of industrial wastes. We, the American taxpayers, pay your salaries to protect, not befowl, our national assets. Poisoning more salmon and fish in Alaska when they are already declining in the lower states' waterways doesn't sound like you're protecting the heritage of U.S. citizens. Are you even on the same planet as the rest of us?

Harriet P. Epstein, California

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 17

Response # 6

Response to Public Comments Submitted By:

Author Name: Lois Epstein

Organization: Cook Inletkeeper

Comment ID CI-410.001

Thank you. My name is Lois Epstein and I'm an Alaska licensed senior engineer with Cook Inlet Keeper in our Anchorage office. Cook Inlet Keeper is a non-profit environmental research and advocacy organization whose mission is to protect Alaska's Cook Inlet watershed and the life it sustains.

Response

Thank you for your comment.

Comment ID CI-410.002

Cook Inlet Keeper will be submitting more extensive comments in writing on the draft permit. We request a 30-day extension to the comment period partly because of the complexity of this material, and partly because we have experienced delays in obtaining relevant documents from U.S. EPA.

Response

Thank you for your comment.

Comment ID CI-410.003

Background. I have worked on the Cook Inlet offshore platform discharge issue for over three years, including reviewing previously developed publications, working with EPA and its contractors on new studies, and independently analyzing production, discharge, injection and biological data. These ongoing permitted discharges are among the most important issues that Cook Inlet Keeper comments on, and we believe one of the most controllable and concentrated contaminant release sources discharging into Cook Inlet.

Response

Thank you for your comment.

Comment ID CI-410.004

Cook Inlet Keeper does not want to shut down these offshore operations, we just want them to achieve the level of performance that others in the country expect of their coastal oil and gas operators.

As a result of the analyses I have both reviewed and performed, it was a great shock to see that the draft permit, rather than restricting some or all of the produced water discharges, substantially increases the allowable discharge and contaminate release rates. This is true even as Cook Inlet offshore platforms are shutting down, and as ConocoPhillips, Forest Oil, and even Chevron Unocal at the Anna platform have modified their operations to ensure zero discharge of produced water.

In fact, in the draft permit and fact sheet there is no evidence that EPA restricted the maximum discharge rate, thus virtually guaranteeing that the industry will have sufficient dilution capability that operators may never violate discharge limits

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response # 58

Comment ID CI-410.005

This is particularly troubling given that EPA is touting the increased monitoring requirements for facilities that violate effluent limits and the decreased monitoring requirements for facilities which demonstrate a good compliance record.

Response

Please reference the following in the Response to Comment Document:

Response # 67

Comment ID CI-410.006

The following is a summary of Cook Inlet Keeper's concerns about the new permit. One, the maximum projected discharge increases by 69 percent to 9.9 million gallons per day from the current actual level of 5.9 million gallons per day.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-410.007

Two -- and I was the person responsible for the hundred thousand gallon calculation. I'm happy to share my data with anyone who is interested in it. That's based on the produced water flow rate, the maximum projected discharge rate and the permit limits.

Number 2, the maximum oil and grease discharge may be over a hundred thousand gallons annually in produced water. Maximum metals discharge, and I'm happy to share these calculations as well, including copper, nickel and mercury maybe over 835,000 pounds, that's the maximum.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-410.008

Three, there no longer will be required monitoring of lead, zinc, silver and arsenic in the discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 45

Comment ID CI-410.009

Four, Granite Point platform will be a new discharge source under the permit, which might result in backsliding and water quality near that platform.

Response

Please reference the following in the Response to Comment Document:

Response # 64

Comment ID CI-410.010

Five, allowable mixing zones are in several instances larger than the hundred meter mixing zones allowed by EPA for offshore discharges. This is true in a coastal area where mixing is more problematic and the environmental impacts are likely to be more significant.

Response

Please reference the following in the Response to Comment Document:

Response # 111

Comment ID CI-410.011

This is an example of bad science in the draft permit. And I think most people in this room know that Cook Inlet is the only place in the country where coastal oil and gas discharges are allowed.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-410.012

Six, EPA does not incorporate National Marine Fisheries Service post Exxon Valdez research findings showing that significantly lower levels of hydrocarbons than previously thought can adversely impact estuarine fish. This is a second example of bad science in the draft permit.

Response

Please reference the following in the Response to Comment Document:

Response # 98

Comment ID CI-410.013

Seven, EPA does not address the tenuous population status of the Cook Inlet Beluga whale in the draft permit, and there have been no studies of the impact of the platforms' ongoing discharges on the Beluga. The National Marine Fisheries Service just began a process to determine whether Cook Inlet Beluga whales should be listed as an endangered or threatened species. And I should add, going over some of this research today, the issue of copper discharges seems to be one that might be the most problematic, although there are a lot of uncertainties with respect to that right now.

Response

Please reference the following in the Response to Comment Document:

Response # 96

Comment ID CI-410.014

Eight, the outdated economic analysis performed by EPA to develop its effluent guidelines does not consider, A, the harm these ongoing discharges may do to marketing of Kenai wild salmon;

Response

Please reference the following in the Response to Comment Document:

Response # 95

Comment ID CI-410.015

Eight, the outdated economic analysis performed by EPA to develop its effluent guidelines does not consider, B, the record high prices of oil and gas and record industry profit or the availability of new drilling waste disposal facilities within the Cook Inlet region.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-410.016

Finally, Cook Inlet Keepers supports the provisions in the draft permit which require, one, collection of ambient data to determine the effective large volume produced water discharges on the Inlet; and two, the expanded areas of prohibited discharges.

Thank you very much for your interest in Cook Inlet Keepers' comments on this important issue

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Corri Feige

Organization: N/A

Comment ID CI-230.001

I offer the following comments in regard to the renewal of the Cook Inlet NPDES General Permit:

Renewal of the CURRENT permit is in the best interest of Alaska and the communities of the Cook Inlet region. The current permit has been successful in protecting the environment as well as allowing for the continued operation of critical oil and gas facilities that supply the regions energy demands. Studies have consistently demonstrated no environmental degradation after 40 years of oil and gas exploration and development in Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Comment ID CI-230.002

Many existing Cook Inlet fields are mature and nearing the end of their economic lives. Major permit changes at this stage would serve no other purpose than to hasten the demise of existing operations, despite high energy prices.

The renewal of the Cook Inlet NPDES General Permit is critical to oil and gas exploration and production in Cook Inlet. At a time when regional energy supply is waning and demand is increasing, a vigorous exploration and development climate in Cook Inlet is crucial to the economic foundation of south-central Alaska. Any permit changes must be technically and economically achievable, and must reflect a bona fide need for more stringent protections in the Cook Inlet. No such conditions exist.

Response

Thank you for your comment.

Comment ID CI-230.003

Under existing state and federal permits, the oil industry must comply with stringent water quality standards that serve to protect aquatic life. All discharges, which already have relatively low toxicity, must be strictly monitored before release. State of Alaska studies have acknowledged that the swift currents, tides and natural mixing capacity of Cook Inlet prevent discharges from accumulating in the Inlet.

Response

Thank you for your comment.

Comment ID CI-230.004

Any permit changes must allow operations to continue under the existing regulatory regime. Any changes should be directed at making monitoring more efficient and reducing the number of samples required.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Comment ID CI-230.005

The proposed draft permit contains provisions that would close areas currently open to exploration and development. This is counter to Alaska's constitutional mandate to provide for the maximum exploitation of the State's natural resources for the benefit of all Alaskans. No scientific evidence has been given in support of the need for these setbacks, and as such, they are inappropriate.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Response to Public Comments Submitted By:

Author Name: Samuel J. Fortier

Organization: Fortier & Mikko (Representing Port Graham)

Comment ID CI-370.001

The Native Village of Port Graham is a federally recognized Tribe. (1) Port Graham appears on the list of Tribes recognized as eligible for services by virtue of its status as a Tribe, and as required pursuant to the Federally Recognized Tribe List Act of 1994.(2) This Act "specifically directed the Department to publish annually 'a list of all Indian tribes which the Secretary recognizes to be eligible for the special programs and services provided by the United States to Indians because of their status as Indians.'" (3) Congress intended that [federal] recognition "permanently establishes a government-to-government relationship between the United States and the recognized tribe as a 'domestic dependant nation.'" (4) Thus,

Through the 1993 tribal list and the 1994 Tribe List Act, the federal government has recognized the historical tribal status of Alaska Native villages ... In deference to that determination, we also recognize such villages as sovereign entities.'

Similarly, Federal environmental law also now recognizes that tribes, including Alaska Native Tribes in general, and Port Graham in particular, possess sovereign interests. This is why the Oil Pollution Act of 1990 (OPA '90) (6) specifically includes and recognizes tribal rights. For instance, OPA '90 defines "Indian Tribe" inclusively, to comprehend Alaska Native Tribes that are federally recognized:

"Indian Tribe" means any Indian tribe, band, nation, or other organized group or community . . . which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the tribe. (7)

Here, there is no doubt that Port Graham has governmental authority over lands belonging to it, including the vacant, unreserved Alaska Native townsite lots deeded of Port Graham, leasehold rights in tidelands, as well as governmental jurisdiction over the restricted townsite lands and allotments in and around the village. In short, Port Graham meets both prongs of the definition of Indian Tribe within the context of the OPA 90 Amendments to the Clean Water Act. (8)

Footnotes

(1) See, Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs, 58 Fed. Reg. 54364, 54365, 54369 (1993); "Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 60 Fed. Reg. 9250, 9255 (1995); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 61 Fed. Reg. 58, 211, 58215 (1996); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 62 Fed. Reg. 55270, 55275 (1997); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 63 Fed. Reg. 71941, 71945 (1998); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 65 Fed. Reg. 13298, 13302 (2000); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs (2002); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 68 Fed. Reg. 68180-01 (2003). Eligible to Receive Services from the United States Bureau of Indian Affairs, 70 Fed. Reg. 71 194-01 (2005)

(2) 25 U.S.C. 5 479a et seq

(3) Id.

(4) Id citing H. Rep. No. 103-781 at 2-3 (1994) as reprinted in 1994 U.S.C.C.A.N. 3768,2769.

(5) Id.

(6) 33 U.S.C. section 2701-2728 (2000),

(7) 22 USC 2701(15)

(8) See also Rogers, et. al. "The Exxon Reopener: Natural Resources Damages Settlements and Roads Not Taken,; Alaska Law Review, Dec 2005 at 140-141 (noting that the Tribal presence is confirmed in the OPA as well as in the

Response

Thank you for your comment

Comment ID CI-370.002

Similarly, pursuant to OPA 90, as well as Title VIII of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), The Tribe has significant, protectable interests in and to Natural Resources, including Subsistence Resources. Under OPA 90:

"Natural Resources" includes land, fish, wildlife, biota, air, water, ground water drinking water, drinking water supplies, and other such resources appertaining to or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government or Indian tribe... (9)

The resources that are appurtenant to Port Graham have already been impacted by the discharges that were allowed in the past. This issue has previously been discussed. (10)

Footnotes

(9) 33 USC 2701 (20)

(10) See, Letter from Samuel Fortier, Fortier & Mikko, P.C., on behalf of Port Graham Dated October 6, 2005 at pp2- 4; McCollum, et.al., :Dietary Limitations Details by Type of Health Risk (2002);

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-370.003

Port Graham seeks a zero discharge requirement in any renewal of the expiring Cook Inlet Oil and Gas NPDES permit, in order to protect the safety and health of its members, and, as well, the waters and environs of Cook Inlet, upon which the people of Port Graham have relied and survived for generations.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-370.004

Port Graham's Standing

The Native Village of Port Graham is a federally recognized Tribe.(1) Port Graham appears on the list of Tribes recognized as eligible for services by virtue of its status as Tribe, and as required pursuant to the Federally Recognized Tribe List of Act of 1994.(2) This Act "specifically directed the Department to publish annually 'a list of all Indian tribes which the Secretary recognized to be eligible for the special programs and services provided by the United States to Indians because of their status as Indians.'"(3) Congress intended that [federal] recognition "permanently establishes a government-to-government relationship between the United States and the recognized tribe as a 'domestic dependant nation.'" (4) Thus,

Through the 1993 tribal list and the 1994 Tribe List Act, the federal government has recognized the historical tribal status of Alaska Native villages ... In deference to that determination, we also recognize such villages as sovereign entities (5)

Footnotes

(1) See, Indian Entities Recognized and Eligible to Receive Services from the United States Bureau of Indian Affairs, 58Fed. Reg. 54364, 54365, 54369 (1993); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 60 Fed. Reg. 9250, 9255 (1995); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 61 Fed. Reg. 58, 211, 58215 (1996); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 62 Fed. Reg. 55270, 55275 (1997); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 63 Fed. Reg. 71941, 71945 (1998); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 65 Fed. Reg. 13298, 13302 (2000); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, (2002); Indian Entities Recognized and Eligible to Receive Services From the United States Bureau of Indian Affairs, 68 Fed. Reg. 68180- 01 (2003). Eligible to Receive Services From the United States Bureau of Indian Affairs, 70 Fed. Reg. 71 194-01 (2005).

(2) 25 U.S.C. 479a et. seq.

(3) Id.(4) Id citing H. Rep. No. 103-781 at 2-3 (1994) as reprinted in 1994 U.S.C.C.A.N. 3768, 2769.

(5) Id.

Response

Thank you for your comment.

Comment ID CI-370.005

OPA '90

Similarly, Federal environmental law also now recognizes that tribes, including Alaska Native Tribes in general, and Port Graham in particular, possess sovereign interests. This is why the Oil Pollution Act of 1990 (OPA '90)(6) specifically includes and recognizes tribal rights. For instance, OPA '90 defines "Indian Tribe" inclusively, to comprehend Alaska Native Tribes that are federally recognized:

"Indian Tribe" means any Indian tribe, band, nation, or other organized group or community . . . which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians and has governmental authority over lands belonging to or controlled by the tribe. (7)

Here, there is no doubt that Port Graham has governmental authority over lands belonging to it, including the vacant, unreserved Alaska Native townsite lots located in Port Graham, leasehold rights in tidelands, as well as governmental jurisdiction over the restricted townsite lands and allotments in and around the village. In short, Port Graham meets both prongs of the definition of Indian Tribe within the context of the OPA 90 Amendments to the Clean Water Act. (8) Similarly, pursuant to OPA 90, as well as Title VIII of the Alaska National Interest Lands Conservation Act of 1980 (ANILCA), the Tribe has significant, protectable interests in and to Natural Resources, including Subsistence Resources. Under OPA 90:

"Natural Resources" includes land, fish, wildlife, biota, air, water, ground water, drinking water, drinking water supplies, and other such resources appertaining to or otherwise controlled by the United States (including the resources of the exclusive economic zone), any State or local government or Indian tribe . . . (9)

The resources that are appurtenant to Port Graham have already been impacted by the discharges that were allowed in the past. This issue has previously been discussed. (10)

A subclass of Natural Resources is subsistence resources. OPA '90 provides specific remedies, including standing, to "any claimant who so uses natural resources which have been injured, destroyed, or lost, without regard to the ownership or management of the resources." (11) Notwithstanding the provisions of 33 U.S.C. 2702(e)(3), (12) the issuance of such a permit for discharges under Federal law will not serve to insulate the facilities permitted from liability for damages, because the Native Village of Port Graham has not agreed to the degradation of Natural Resources, including those used for subsistence.

Footnotes

(6) 33 U.S.C. sections 2701-2728 (2000).

(7) 22 U.S.C. 2701 (15)

(8) See also Rogers, et. al. "The Exxon Reopener: Natural Resources Damages Settlements and Roads Not Taken,": Alaska Law Review, Dec 2005 at 140-141 (noting that the Tribal presence is confirmed in the OPA as well as in the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)

(9) 33 U.S.C. 2.701 (20)

(10) See, letter from Samuel Fortier, Fortier & Mikko, P.C., on behalf of Port Graham dated October 6, 2005 at pp. 2- 4; McCollum, et al: Dietary Limitations Details by Type of Health Risk (2002).

(11) 33 U.S.C. 9 2702(b)(2)(C).

(12) 33 U.S.C. 2702(c) limits the application of that subchapter to discharges that are not permitted by "a permit used under Federal, State, or local law."

Response

Please reference the following in the Response to Comment Document:

Response # 34

Comment ID CI-370.006

In addition, Port Graham also has standing to bring and maintain an action for Natural Resource damages under 33 U.S.C. § 2706. Pursuant to U.S.C. § 2706(a)(3), Port Graham has standing to seek damages for "natural resources belonging to, managed by, controlled by, or appertaining to such Indian Tribe." A cursory review of applicable law establishes that Port Graham, by virtue of co-management agreements, manages marine mammals, including seals, whales, sea otters, and other species falling under the purview of the Marine Mammal Act (now in the process of renewal). Port Graham occupies a seat on the Sea Otter Commission; as well, it assists in the management of beluga whale populations and harbor seals. Port Graham also participates in the management of subsistence resources through its participation on the Federal Subsistence Management Board and advisory committees. Port Graham has represented subsistence users on the Exxon Valdez Trustees Council Advisory Committee, and this position is specifically recognized under the Exxon/Federal/State settlement. (13) Port Graham also enjoys management of fisheries and subsistence resources under other federal laws and regimes. In short, Port Graham retains and will assert specific rights, as a Tribe, to vindicate its interests in preserving Cook Inlet against degradation, including discharges from existing and expanded facilities, and produced water, drilling fluids, drilling cuttings, and other contaminants and unlawful discharges. (14)

Under 33 U.S.C. § 2706(b)(4), Port Graham Tribal Council has the responsibility to designate Tribal Officials "who may act on behalf of the tribe or its members as trustee for natural resources" The trustees so designated "shall develop and implement a plan for the acquisition, rehabilitation, replacement, or acquisition of the equivalent of the natural resources under their trusteeship." (15) The Tribe's plan involves the prohibition of discharges, as the term "discharge" is used in OPA '90.

Footnotes

(13) See also *Chenega Bay v. United States*, fn. 8, *supra*. (discussing the settlement).

(14) See 71 F.R. No. 761, pp. 20397-8 (April 20, 2006).

(15) 33 U.S.C. 2706(b)(4)(B).

Response

Thank you for your comment.

Comment ID CI-370.007

Port Graham also wishes to repeat the following points made in a submittal dated October 6, 2005.
(16)

1. The expanded area takes the proposed permit out of the exemptions for Cook Inlet Operators under 40 C.F.R. 435.443 and 435.445, even if those exemptions survived the implementation of OPA '90, which Port Graham asserts is not the case.

2. Permitting of discharges is not authorized under the provisions of OPA '90, because the discharges will have a long-term negative effect on natural resources, including subsistence natural resources, and as well, on human health, including the health of Port Graham tribal members dependent on subsistence natural resources. (17)

Footnotes

(16) Letter from Sam Fortier, Fortier & Mikko, P.C., n. 10, supra.

(17) See E A, which specifically notes that the discharges will have negative effects.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 33

Response # 34

Comment ID CI-370.008

Conclusion:

Under OPA '90, discharges into Cook Inlet, such as those permitted under the expiring NDPES permit, are illegal. Further, OPA '90 belatedly recognizes the interests that Port Graham and other Alaska Native Tribes, have in the protection of water and in preventing degradation of Cook Inlet. Finally, based on the technological advances since the 1980's, there is no longer any justification for the exemptions that are anticipated under the proposed renewal of the expiring NDPES permit for Cook Inlet. For all the foregoing reasons, the EPA should not issue other than a zero discharge requirement upon renewal of the expiring NDPES permit. Zero discharge is rendered even more compelling in view of the expanded nature of the permit's proposed coverage.

Response

Please reference the following in the Response to Comment Document:

Response # 34

Response # 6

Response to Public Comments Submitted By:

Author Name: Mako Haggerty

Organization: N/A

Comment ID CI-520.001

Mako like taco, little reminder there.

I'm a water taxi operator now, but when I first moved up here I was a commercial fisherman and I was up until 1999.

One of the fisheries that was established in recent years was the State Pacific cod fisheries, which is basically an inshore fishery, it's within the State waters of three miles out.

A lot of that fishing takes place in areas that have been looked at for oil development and lease sites, and if there is discharge it definitely affects the grounds where those fish are caught. And it's not just those fish, but those are also good crabbing grounds as well, once upon a time.

Response

Please reference the following in the Response to Comment Document:

Response # 102

Response # 95

Comment ID CI-520.002

And right now it just seems to me that the technology is there to reduce and even eliminate those discharges, and in the fishing industry it's a constant battle with the market.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-520.003

And, you know, if the oil industry doesn't work with an established fishing industry, then we're basically at odds all the time over our two different industries.

There is no reason for the oil industry to be impacting an existing industry here that employs lots of people. And it's statewide. Fishing provides lots of jobs and lots of money for this state. So I just don't understand why there would even be any discharge at all off of these platforms. And I'd urge you to move to a zero discharge, protect our industry as well. Thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response # 95

Response to Public Comments Submitted By:

Author Name: Dale Haines

Organization: Union Oil Company of California

Comment ID CI-010.001

Union Oil Company of California (UOCC), a wholly-owned, indirect subsidiary of Chevron Corporation, currently operates ten offshore and two onshore oil and gas exploration and production facilities in and around Cook Inlet, Alaska which are currently authorized to discharge under the Existing Permit AKG-28-5000. UOCC supports and endorses comments submitted by the Alaska Oil and Gas Association (AOGA) on the proposed permit, Alaska's State 401 Certification, and on the Ocean Discharge Criteria Evaluation, and on the Environmental Assessment associated with this action. We request that the AOGA comments be incorporated by reference herein; and offer the following additional information specific to facilities operated by UOCC.

Response

Thank you for your comment.

Comment ID CI-010.002

EPA has proposed the installation of a diffuser at UOCC's Trading Bay Production Facility (TBPF) and has prepared supporting documents which provide an inaccurate basis for this requirement. Several EPA documents associated with the permit erroneously state the diffuser is required because, "this discharge is in fairly shallow water and is much closer to sensitive areas than any other produced water discharge in Cook Inlet." In fact, TBPF discharges in 10 meters of water, 2.3 miles from shore, and is not the closest facility to the coast.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.003

The reason for requiring a diffuser is stated in the Fact Sheet as helping "to reduce the potential effects from the discharge by reducing the size of the area of Cook Inlet in which water quality criteria will be exceeded." In the Ocean Discharge Criteria Evaluation, page 111, EPA states the diffuser is being required, "to reduce pollutant concentrations in its produced water discharge." In fact, the diffuser is expected to improve mixing, but will have no impact on pollutant concentrations in the TBPF discharge.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.004

Modeling confirms that mixing distances for TBPF could be reduced by installing a diffuser. However, modeling of the existing outfall also demonstrates rapid dispersion of discharges in times well below standards established for chronic and acute exposures. These exposure standards have been approved by both ADEC and EPA as protective.

Response

Thank you for your comment.

Comment ID CI-010.005

Additionally, it has long been understood that high energy conditions in Cook Inlet are dramatically different than other receiving water bodies, and that use of conventional models in this environment results in very conservative outcomes. UOCC believes the administrative record and available independent, scientific data support issuance of a smallest practicable mixing zone for TBPF without a diffuser consistent with the modeling provided in UOCC's amended application for TBPF. The current speed assumptions made by Parametrix in this application are the most protective of Cook Inlet aquatic life. Nevertheless, in response to requests from EPA for additional information and modeling associated with the feasibility, cost, design and installation of a diffuser, UOCC researched the technical and economic factors for several diffuser lengths. We determined that design and installation of an 80-meter diffuser (not 100 meters as erroneously stated in EPA's Fact Sheet) was feasible for TBPF and submitted a letter on May 18, 2005 to ADEC (copies provided to EPA) so stating.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.006

UOCC considered the possible operational, reliability and cost impacts of a diffuser redesign and identified several concerns. Modifying a diffuser to increase the discharge velocity increases system backpressure. The potential consequences of increased backpressure are the need for increased pumping horsepower and a resulting reduced flow output. Increasing volumes of produced water will compound the complications of increased backpressure. Modifying subsurface piping in the strong currents of Cook Inlet is inherently complex and dangerous. Assuring that discharge ports remain free of fouling and blockage is also important. UOCC has conducted preliminary engineering of the feasibility of diffuser redesign. The following issues were identified as challenges to determining feasibility:

Maximum safe backpressure for existing system design must be identified and projections for future flow rate increases must be sufficiently accurate to determine an optimal design for present and future conditions. Capacity and horsepower requirements of the existing pumps must be verified. A preliminary review suggests that existing pump capacity should be adequate, however increasing load on existing, permitted equipment is likely to trigger the need to amend the TBPV Title V Operating Permit.

The ability of aging systems to accommodate increased pressures must be evaluated.

Potential for marine fouling, pipe scale fouling and sediment build up must be considered. Potential for fouling and other risks will require an increase in the frequency of dive inspections and in pump log monitoring efforts.

Consequences, intended and otherwise, of other treatment improvements being evaluated must be considered. Potential for fouling and other risks will require an increase in the frequency of dive inspections and in pump log monitoring efforts.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.007

It is not feasible to simply 'drill holes in the existing pipe'. This would damage the integrity of the existing corrosion coating system and has inherent construction risks. In addition, it could compromise structural integrity of the existing outfall piping and is essentially irreversible. An engineering evaluation will likely result in the need for an onshore fabrication of a custom diffuser and replacement of the existing pipe. It may be feasible to add an onshore fabricated diffuser to the end of the existing pipe.

Response

Thank you for your comment.

Comment ID CI-010.008

To enable ADEC to consider the cost implications of designing and installing an 80 meter diffuser, a preliminary cost estimate of one time costs of \$330,500 and incremental annual operating expenses of \$28,200 was provided. Since that time, more detailed engineering and cost estimates were developed based on the following assumptions:

- Cost estimate assumes HDPE Diffuser, towed out from beach and sunk
- Includes installation of Tie-In Spool Piece
- Includes PM and Construction supervision Time Writing
- Does not include Permitting and Compliance costs/ Environmental Time Writing

Further refinement of costs based on engineering considerations resulted in an estimate of \$750,000 for one-time costs.

Response

Thank you for your comment.

Comment ID CI-010.009

EPA has allocated two years for installation of the diffuser, but has not indicated how compliance will be determined in the interim. Obviously, there are implications with meeting WQS and mixing zones. In order to allow time for engineering design, construction and installation, UOCC requests that EPA incorporate a compliance schedule into the Proposed Permit to address the compliance concerns.

Section II.G.2 of the Proposed Permit requires the installation of a diffuser at TBPF within two years of the effective date of this permit. It will take approximately two years to design and install a diffuser on the TBPF outfall, with timing influenced by when summer field seasons fall in relation to the date of permit issuance. Therefore, if EPA persists in requiring a diffuser, a compliance schedule should be incorporated into the Proposed Permit. The 401 Certification should also include an interim mixing zone to enable compliance before and during diffuser installation.

A key constraint to developing a schedule is the short window for in-water work. Due to weather, daylight hours, and sea ice conditions, the optimal time for installation to begin is between June 1 and July 30. Diving windows are more limited and risk is increased in the later dive season which typically ends in September. Actual diving time will be coordinated within the monthly tidal cycles to further optimize installation during the longest slack or hold-over tide. Thus, in order to complete installation of the diffuser at optimal construction period, final permitting must be in place by November prior to the start of construction.

Some contingency should be included in any compliance schedule to avoid the need for an emergency or short-term amendment.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.010

It is not appropriate for EPA to require approval of the diffuser design. Section II.G.2 of the Proposed Permit continues, "The operator shall submit the final diffuser design to EPA Region 10 for approval prior to construction." UOCC objects to EPA proposing to approve an engineering design for TBPF or for other facilities. It is the permittee's obligation to ensure that the diffuser, which will be designed based on conservative modeling completed using best available data, results in effluent quality which meets both end-of-pipe limits and Alaska WQS at the edge of the approved mixing zone. EPA does not have the technical expertise or the regulatory authority to become involved in actual plant process design or operating decisions. If EPA persists in asserting authority to approve engineering designs, they must specify what criteria are being used to evaluate the diffuser design.

UOCC suggests II.G.2 be amended as follows, 'Prior to construction, (T)he operator shall submit [THE FINAL DIFFUSER DESIGN TO EPA REGION 10 FOR APPROVAL] ((modeling results to EPA Region 10 for the diffuser designed to demonstrate it will result in dispersion, consistent with the mixing zone size granted'))*'

*Where UOCC recommends specific changes in permit language throughout these comments, new language is ((underlined)) and deleted language is [BRACKETED AND IN ALL CAPS].

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.011

ADEC, under authority of 18AAC 72.600, paragraph (c), will be given the required engineering documents for review. However, the means and methods of construction are the sole responsibility of UOCC. Installation of sub sea pipelines requires very specific construction details and implementation. There are few marine climates in the world that are similar to the conditions found in Cook Inlet with extreme tides and low visibility. UOCC has developed specific construction means to perform work in the Cook Inlet. Deviations from those methods or design could affect process conditions and safety of construction crews. UOCC has the experience and expertise to select the correct materials, design, and implement installation of a diffuser for the TBPF outfall line. In addition the Engineering and Construction group at UOCC currently has 3 mechanical engineers licensed in the State of Alaska.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Comment ID CI-010.012

EPA proposes to increase regulation of miscellaneous discharges (005014) by establishing both dosing concentration limits for treatment chemicals and whole effluent toxicity (WET) monitoring. This proposal was made despite the low flows, rapid dilution, and primarily intermittent nature of these discharges, and in the absence of any evidence of significant potential for environmental impact. The existing permit requires that chemical usage be tracked and reported. EPA commented during the development of the existing permit that regulation of treated miscellaneous discharges was not warranted. No evidence is provided demonstrating potential for these discharges to significantly impact the water quality of Cook Inlet. In fact, substantial evidence is provided demonstrating that water quality in Cook Inlet is good and unimpaired by years of oil and gas operations.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 4

Response # 7

Comment ID CI-010.013

In an effort to demonstrate the insignificant nature of these [miscellaneous] discharges, the mixing zone application and supplement for this renewal included estimated toxicity modeling based on manufactures' information and very conservative estimates of in-stream flow rates. EPA has incorrectly and inexplicably applied conservatively estimated hazard quotients (HQs) used for this modeling as chronic toxic unit (TUC) limitations for these discharges. As a result, ADEC has granted mixing zones for these discharges. ADEC has, appropriately, acknowledged that sampling these outfalls is extremely problematic.

Mixing zones and monitoring of these discharges are not warranted to meet state toxicity water quality standards provided that application rate controls are included in the final permit, therefore, UOCC requests that EPA delete these requirements from the permit.

EPA's establishment of TUC limitations for these discharges is inappropriate. Rapid mixing demonstrated by modeling, low flows, use of EPA approved chemicals at recommended doses, and the mostly intermittent nature of the discharges simply does not warrant mixing zones or monitoring limits to protect State Water Quality Standards. This conclusion should be reflected in the final 401 Certification.

Response

Please reference the following in the Response to Comment Document:

Response # 181

Response # 7

Response # 8

Comment ID CI-010.014

If EPA persists in applying WET limits to these low flow, intermittent discharges which are based incorrectly on conservative estimated HQs, then UOCC will need mixing zones granted by ADEC in order to operate. However, we encourage EPA to revisit this issue with ADEC in light of above, and request that EPA acknowledge that adequate control of treatment chemicals is ensured by the dosing concentration limits only.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Comment ID CI-010.015

Section II.G.3 perpetuates an error in the Existing Permit by stating "the Anna and Bruce platforms may route their produced water discharge to the ((East Foreland Production Facility)) for treatment and discharge". In fact, XTO Platforms A and C, and UOCC Platforms Baker and Dillon are the platforms that ship fluids to the East Forelands facility.

This section should be corrected to state, “((the Anna and Bruce Platforms may route their produced water discharge to the Granite Point Tank Farm for treatment and discharge; and Baker and Dillon platforms may route their produced water to the East Forelands Production Facility))”

**Data Entry Note: Since underlined words cannot be represented in this database, they are being represented by ((double bracket enclosures))

Response

Please reference the following in the Response to Comment Document:

Response # 19

Comment ID CI-010.016

Additionally, it is unnecessary to require 24 hour notification of rerouting. Three platforms, Anna, Bruce and Granite point, ship fluids to GPTF for additional treatment and discharge. However, these platforms are authorized to discharge produced water directly as well. Varying operational conditions dictate when produced water is routed to GPTF and when it is discharged directly from the platforms. Monitoring and effluent limits are in place to ensure that WQS are met. DMRs provide information on volumes and monitoring results monthly. These activities have not changed in 40 years. There is no basis or purpose for EPA to require notice. Therefore, in addition to making the correction noted above, Section II.G.3 should be amended to strike the following language, [“THE PERMITTEE MUST REPORT REROUTING BY TELEPHONE OR FACSIMILE TO EPA WITHIN 24 HOURS OF REROUTING, AND MUST PROVIDE ... THE PERMIITEE MUST CEASE REROUTING AS SOON AS POSSIBLE.”]

Response

Please reference the following in the Response to Comment Document:

Response # 20

Comment ID CI-010.017

UOCC supports ADEC's decision to regulate sanitary discharges for all offshore facilities based on an upper total residual chlorine (TRC) limit of 13.35 mg/L and requests that EPA note that since distributing the October 20, 2005 mixing zone application revisions, UOCC has decided to upgrade to marine sanitation devices (MSDs) at Bruce, Baker and Dillon platforms. Therefore, these facilities should be reclassified as M9-MSDs. (Modifications to the Bruce system are planned for fall 2006.)

With MSDs at the UOCC and XTO Energy offshore facilities, it is most appropriate to apply the 13.35 mg/L TRC limit uniformly. Although a lower TRC limit might be feasible for the Granite Point Platform, UOCC believes the 13.35 mg/L limit should be applied there as well due to the limited amount of TRC data available to support a possible lower limit CPAI continues to believe the 13.35 mg/L limit is achievable at Tyonek A despite historical TRC concentrations up to 17.5 mg/L. In keeping with the consensus to regulate sanitary discharges on a generalized basis, the applicants propose to establish one mixing zone size, equally applicable to each platform and consistent with the 13.35 mg/L TRC limit.

Response

Please reference the following in the Response to Comment Document:

Response # 21

Comment ID CI-010.018

We appreciate the opportunity to provide comments on the proposed language for AKG-31-5000 and encourage EPA to carefully consider our comments and the comments submitted by AOGA.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Roberta Highland

Organization: Kachemak Bay Conservation Society

Comment ID CI-100.001

KBCS was disappointed in the lack of adequate public notice regarding the Homer public hearing. In addition to notice in a local newspaper one month prior to the meeting, we would appreciate notice be published two weeks and one week before the meeting.

Response

Please reference the following in the Response to Comment Document:

Response # 90

Comment ID CI-100.002

KBCS was deeply disappointed in the proposed reissuance of the NPDES Permit for Cook Inlet. It is a long ways from the zero discharge we were hoping for.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-100.003

Cook Inlet, as you well know, is the only coastal area in the country where the US EPA allows these types of oil and gas related discharges. The draft permit will allow over 100,000 gallons of oil and grease to be discharged into Cook Inlet and over 835,000 pounds of metals, such as mercury, nickel, copper, manganese, and zinc. This is unacceptable.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 37

Response # 6

Comment ID CI-100.004

We are told by the oil industry “the cost of doing business” includes risk to the environment and the probability of pollution. We must also include include an increased dollar “cost of doing business” to the oil industry with the result of zero pollution and zero discharge. The technology is there and they need to use it.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-100.005

When we add up the total impact of all the pollutants in Cook Inlet--oil platform discharges, all the sewage plants, boat traffic, runoff from all the towns surrounding it, landfill runoff, and etc--the amount is staggering. We are told the tides flush these toxins away, but they go somewhere.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-100.006

The draft permit also authorizes nine Cook Inlet discharge locations, a significant increase from the four locations currently discharging produced waters. This is unacceptable.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 37

Comment ID CI-100.007

KBCS thinks dumping toxins into salmon and beluga whale habitat is always a bad idea. We implore the EPA to give Cook Inlet the respect it needs and deserves and issue a ZERO DISCHARGE PERMIT and bring us in line with the rest of the USA.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Roberta Highland / Robert Archibald

Organization: N/A

Comment ID CI-220.001

I was disappointed in the lack of adequate public notice regarding this hearing. I think regulations need to be changed to add to a notice in a LOCAL news paper 1 mos. Prior to the meeting; notice be published 2 wks & 1 wk before the meeting.

Response

Please reference the following in the Response to Comment Document:

Response # 90

Comment ID CI-220.002

We are told by the oil industry the "cost of doing business" includes risk to the environment & the probability of pollution. We must also include an increased dollar "cost of doing business" to the oil industry with the end results of zero pollution & zero discharge. The technology is there & they need to use it.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-220.003

When we add up the total impact of all the pollutants in Cook Inlet - oil platform discharges, all the sewage plants, boat traffic, run off from all the towns surrounding it, land fill run-off etc - the amount is staggering. We are told the tides flush these toxins away - but they go somewhere. Is it any wonder the worlds oceans are in trouble?

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-220.004

The name of your agency says it all - Environmental Protection Agency. The present administration continues to gallop us backwards in time environmentally. They are ignoring and denying the facts which are staring them in the face. Denial only works for so long, before there are consequences to pay. Do you want your children & grandchildren to pay - or are you willing to do the right thing now? I am asking you to turn the tide in history.

Response

Thank you for your comment.

Comment ID CI-220.005

To say I was disappointed in the latest EPA draft permit is an understatement. This draft allows an increase in the amount of allowable pollution - totally unacceptable. This permit increases the area of pollution - totally unacceptable.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 36

Response # 37

Comment ID CI-220.006

If I could snap my fingers & have my way this permit would be about turning the polluting oil & gas platforms (also, remembering using oil & gas causes pollution) into TIDAL ENERGY PLATFORMS. We would be turning as quickly as possible from polluting fossil fuels, using our creativity & technology for progressive energy solutions.

Your agency could be leading us on new energy pathways. Instead, you're firmly stuck in the archaic thinking that drilling for oil anywhere is the ultimate answer to the mess we're in. So much for my dreaming.

Response

Thank you for your comment.

Comment ID CI-220.007

Back to reality - I want to know what it would take to make this a ZERO DISCHARGE permit, so Cook Inlet could come in line with the rest of the U.S.A. Can you make this happen? What would it take?

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Roberta Highland

Organization: N/A

Comment ID CI-440.001

Hello, my name is Roberta Highland. Did you say you wanted the address?

I was disappointed in the lack of adequate public notice, and I'm really wondering how we can improve that. Because apparently a month ago March 1st there was a notice in a local newspaper which most everyone missed, and that was all that's required. And it ended up being our, the public part, to try to get word out about this meeting tonight, and that just doesn't seem like a good way to do things, and I'm wondering how we can improve that.

You all came here, which is a big cost and big chunk of time, and I'm just wondering -- in my estimation the month is good, though we all missed it, but then I would really like to see it a week -- two weeks and a week in front of it, in front of the meeting, too, so that the newspaper could have that, and then the local radio station also. I don't think that's asking too much, and I'm wondering how we can have that happen. Is there anything -- anybody I should call and request this, that the notice gets increased?

Response

Please reference the following in the Response to Comment Document:

Response # 90

Comment ID CI-440.002

It's pretty well known that Cook Inlet is the only body of water in the nation that is allowed to have these dumpings, discharges into the waters, and that I'm hoping will change.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-440.003

We are told by the oil industry that the cost of doing business includes risk of the environment and the probability of pollution. We must also include an increased dollar cost of doing business to the oil industry with the result of -- I would want to see zero pollution and zero discharge. The technology is there and they need to use it.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-440.004

When we add up the total impact of all the pollutants in Cook Inlet, we've got oil platform discharges, we've got sewage plants, boat traffic, runoff from all the towns surrounding it, the landfill runoffs, et cetera, in my estimation the amount is staggering.

We are told the tides flush these toxins away but they go somewhere. Is it any wonder the world's oceans are in trouble.

Response

Thank you for your comment.

Comment ID CI-440.005

The name of your agency says it all, Environmental Protection Agency. The present administration continues to gallop us backwards in time environmentally. They are ignoring and denying the facts which are staring them in the face, and there is more and more facts all the time every day I hear on the radio. Denial only works so long before there are consequences to pay, and I think that this body of water is paying the consequences right now.

Do you want your children and grandchildren to pay or are you willing to do the right thing now? I am asking you to turn this tide in history. I want to know what it would take to make this a zero discharge permit so Cook Inlet can come in line with the rest of the USA. And I think that we need to do that now. Now is the time. The permit process, which is two years beyond the permit running out -- am I coming up to my time? Okay.

We've got fisheries, and the combination -- increasing the area is a really bad idea, but I actually just truly want a zero discharge. Thanks.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 6

Response to Public Comments Submitted By:

Author Name: Nancy Hillstrand

Organization: Pioneer Alaskan Fisheries

Comment ID CI-110.001

Eliminate the exemption allowing pollutants and toxic discharges of Oily Platform Pollutants into our seafood. To allow discharge of persistent pollutants into our indispensable seafood bearing system of water is an unjustifiable obsolete practice. This is not in the best interest of the public and is dangerous to public health.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 6

Comment ID CI-110.002

EPA has the discretion to issue a permit that embraces zero discharge for public safety.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-110.003

These discharges gives the pristine Alaskan seafood marketing effort a black eye. Awareness of toxins building in seafood through the food chain is headline news worldwide. The persistence of these chemicals are compounded in the edible flesh of our seafood and become a toxin in our own bodies.

Direct toxic discharges into a seafood source of this magnitude are inexcusable and unacceptable. It destroys the reality as well as the perception of Alaska as being a source of chemical free wild seafood.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 95

Comment ID CI-110.004

Major advances in drilling reinjection and processing technology have been accomplished and oil prices and profits are at all time highs since this exemption was granted. It is now economically and technologically feasible to reach zero discharge in this world class seafood system.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-110.005

As an Alaskan Corporation for 43 years we have complied with the “cost of doing business” of many costly rules and regulations. These “costs” lead to the “returns” of public health.

The Oil Corporations have the responsibility to us their customers to include the “cost of doing business to provide for the safety of the public who eat seafood from these waters. This procedure is a tax write-off for these companies. There are tax credits available also. This would be an asset to these company and depreciation as well as expenses can be written off each year.

Response

Thank you for your comment.

Comment ID CI-110.006

The EPA has the responsibility to uphold the Clean Water Act for public health.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Hillary Hollenbeck

Organization: N/A

Comment ID CI-350.001

I am writing to assert my disapproval of the re-issuance of a discharge permit for wastewater associated with oil and gas development in Cook Inlet. I grew up in Fairbanks, earned my degree in environmental science from Western Washington University and now live in Homer, AK. I have a solid background in the discussion surrounding the costs and benefits of drilling.

Cook Inlet leases need to be held to the same standard as the oil rigs on the North Slope, especially considering how fragile the Cook Inlet ecosystem is and the number of people who rely on its resources for fishing and tourism businesses. I am also concerned about the permitting of discharge of wastes associated with synthetic drilling muds. This policy does not make sense to me.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response # 69

Response # 85

Comment ID CI-350.002

Oil company revenues are high enough to authorize a zero discharge policy without damaging oil company's profits. Thus, if we are going to drill, I propose we drill responsibly and with the least amount of damage to our landscape as possible.

Please issue a zero discharge policy for oil and gas development in Cook Inlet.

Thanks for considering my viewpoint.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Steve Howell

Organization: Cook Inlet Regional, RCAC, Regional Advisory Council

Comment ID CI-540.001

Hi, my name is Steve Howell, Cook Inlet Regional, RCAC, Regional Advisory Council.

The Cook Inlet Regional Citizens Advisory Council requested through a letter for an extension of the proposed comment period for review to June 15th, and based on some of the comments you hear tonight it's probably initially for good reason.

Response

Due to numerous requests for an extension to the comment period, EPA extended the 60-day comment period an additional 30 days, for a total of 90 days for public review of the draft permit documents.

Comment ID CI-540.002

The Cook Inlet Regional Citizens Advisory Council, among other things, was created as a vehicle for many of the comments that you're hearing tonight and specifically set up so that it would –

SPEAKER: Could you speak up a little bit?

Sure, let me slide this in a little more. The council was created by the Oil Pollution Act of 1990, specifically to be a conduit for some of these same comments, but also to give them the structure of science and the aid of science as well.

As you're probably aware, our council has at its disposal a director of science and research and a number of contractors who can speak to many of the issues raised in this permit.

One of the other things that are included in open ideas is the requirement of the cooperation of federal agencies with our council, specifically to consult with the appropriate -- with our council prior to taking substantive action with the request of permit-specific regulations on the matters.

Prior consultation obviously, according to law, it doesn't have to occur in the case of an emergency but we're talking about a permit that's well over -- or right at, I guess, the anniversary of two years of expiration. So I don't think we're talking about an emergency situation in this case.

During our review of the documents that were released for the review, and I think as many people in the room may not be aware but are probably becoming aware, there are significant changes in this permit. It's not simple, not quite as simple as review of the existing permit. And then without substantive changes, there are significant changes, and there is quite a bit of ancillary documentation that would require significant review as well.

Response

Thank you for your comment.

Comment ID CI-540.003

Cook Inlet RCAC is prepared to be, among other things, a conduit for that on behalf of the public. We represent cities and municipalities from Anchorage to Kodiak as well as the two boroughs, commercial fishing organizations, Native organizations as well. So we would ask that you extend that by another 45 days.

We also understand that industry and MMS and ADEC would either support or at least acknowledge that that would not affect the current or existing or future operations if you were to extend that.

The permit has taken a lot of time for everybody to create, you've put a lot of effort into this obviously, and I think it's certainly worth having the public to have adequate time to provide scientific comments on. Thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Nina Hutton

Organization: XTO Energy

Comment ID CI-050.001

XTO Energy Inc. appreciates the opportunity to comment on the referenced draft NPDES General Permit which, once finalized, will govern our discharges from two platforms and one onshore treatment facility. XTO Energy Inc. endorses the extensive comments submitted by the Alaska Oil & Gas Association (AOGA). In addition, XTO is submitting the following comments on its own behalf.

Response

Thank you for your comment.

Comment ID CI-050.002

Miscellaneous Discharges

In Section II.F.1.Table 5 on page 34 of the draft permit, Whole Effluent Toxicity (WET) testing is required for all Miscellaneous Discharges. Because it is impossible to perform a WET test on Discharges 012 (Excess Cement Slurry) and 013 (Mud, Cuttings, Cement at Seafloor), Table 5 should be modified to exclude those two effluent streams from the WET testing requirement.

Response

Please reference the following in the Response to Comment Document:

Response # 186

Comment ID CI-050.003

For all the reasons spelled out in the AOGA comments concerning lack of data upon which to base a WET limit, XTO recommends that WET testing, if ultimately required, be required only for miscellaneous discharges greater than 10,000 gpd and only for treatment chemicals with a low LD50 (perhaps <1,000). Polyelectrolyte used to help capture silt in the sand filters, most scale inhibitors, and many oxygen scavengers are low toxicity chemicals.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Comment ID CI-050.004

We also think it is inappropriate to perform a WET test for purposes of demonstrating compliance with a chronic WET state water quality standard when an effluent stream is batch-treated, and data shows that the treatment chemical is undetectable in any effluent stream for longer than 39 minutes. (See Tables 1a and 1b in the attached memorandum)

Since miscellaneous discharges were not tested for toxicity in the current permit, XTO did not ask Parametrix to attempt to develop a basis upon which the end-of-pipe toxicity of any chemical additives could be evaluated. Unocal did take this approach, and as a result, the draft permit establishes WET limits in Table 6-C for many of the Unocal facilities. XTO also uses treatment chemicals, but does not believe that the data support a WET limit.

Response

Please reference the following in the Response to Comment Document:

Response # 25

Response # 8

Comment ID CI-050.005

Unlike Unocal, XTO uses sodium hypochlorite (bleach) as a biocide to prevent bacterial growth from causing corrosion or plugging filters. As a result, desalination unit wastes, boiler blowdown, non-contact cooling water, and some of the waterflooding discharges (D.E. filter backwash, Cuno filter backwash, and excess waterflood water) may have acute Total Residual Chlorine (TRC) concentrations. Because Alaska only has a chronic WET limit and the TRC stays in the effluent for less than 1 hour after batch treatment, it does not seem appropriate to set a WET limit based on TRC for these discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 25

Response # 8

Comment ID CI-050.006

Parametrix evaluated the other treatment chemicals XTO uses: a polyelectrolyte used to help silt adhere to the sand filters, a dispersant to help the bleach contact as much water as possible, and an oxygen scavenger to prevent downhole corrosion in the injection wells. Toxicity thresholds derived from data available on MSDSs were compared with modeled end-of-pipe concentrations based on dosing, and none of the end-of-pipe concentrations exceeded its toxicity threshold. Consequently, no mixing analysis was conducted, and there does not appear to be a need for a WET mixing zone.

Since there is a state WQS for TRC, Parametrix modeled the two largest miscellaneous discharges, non-contact cooling water and excess waterflood water, to determine an acute TRC mixing zone for these discharges. The Parametrix report is attached. XTO is submitting this report to ADEC along with a request for an acute TRC mixing zone for each platform.

Response

Please reference the following in the Response to Comment Document:

Response # 30

Comment ID CI-050.007

METALS TESTING IN PRODUCED WATER

Section 2.G.6.a.1. of the proposed permit allows for a reduction in monitoring frequency for metals that have 12 consecutive months of data showing compliance. The Fact Sheet on page 41 says that effluent data collected under the existing permit is not proposed to be applied to the monitoring frequency reduction allowances under the reissued permit because "there are some significant changes in the limits compared to the Expired Permit". The metals limits have all been raised, so permittees can show compliance with the Expired Permit for certain metals can show compliance with the proposed permit and should be allowed to go to reduced monitoring immediately.

Response

Please reference the following in the Response to Comment Document:

Response # 31

Comment ID CI-050.008

XTO Energy Inc. hopes U.S. EPA will take into account both AOGA's comments and these comments in issuing a final renewal permit. If you have any questions, please contact me at (817) 885-2274 or by email at Nina_Hutton@xtoenergy.com.

Response

EPA has considered every comment in finalizing the permit.

Response to Public Comments Submitted By:

Author Name: Benjamin Jackinsky

Organization: Commercial Fisherman

Comment ID CI-630.001

My name is Benjamin Jackinsky, I'm a life long commercial fisherman on Kalifornsky Beach.

I'd like to continue to fish and market the salmon I catch. The market for salmon is changing. In the last few years there has been great efforts and lots of money spent to market Alaska salmon as pure, healthy and healthful. If Cook Inlet is turned into and allowed to continue as a big mixing zone for industrial waste, the effects on the fishing industry can't be good.

With advances in technology coming out at an ever increasing rate, there should be no need for waters in Cook Inlet to be compromised. Also there has been lots of press recently about the fate of Cook Inlet Belugas. With Belugas on the brink of extinction, it seems incredibly foolhardy for one federal government agency to impede the Belugas' environment by allowing chemical stew pots, and another federal agency attempting to save the Belugas' habitat.

The very least that should be done is extensive study as to what the effect the large Cook Inlet mixing has on the Beluga population.

Response

Please reference the following in the Response to Comment Document:

Response # 102

Response # 6

Response # 95

Response # 96

Comment ID CI-630.002

Another note. I have lived less than one mile from the natural gas wellheads, and I guess I don't consider the oil industry to be good neighbors. I've yet to be able to tap into the natural gas that comes out. I guess I'm not an oil supporter.

Response

Thank you for your comment

Response to Public Comments Submitted By:

Author Name: Wayne Johnson

Organization: N/A

Comment ID CI-290.001

My name is Wayne Johnson and I was born in Skagway, Alaska in 1958. I have lived on the Kenai Peninsula since 1978 working for the oil industry and enjoying the great outdoors throughout Alaska.

I went to the public comment for the reissuing of the new NPDES permit in Homer last night and I would like to make a few comments of my own.

1. One gentleman said that he has been a commercial fisherman for 35 years. The oil industry has been here for over forty years and there has been no known contamination of fish reported in Cook Inlet from the oil industry,

2. Several individuals spoke on no testing being done. In fact there has been studies done from 1992 to 2004. Twenty two that I have paperwork for. Of these twenty two, eleven were prepared for CIRCAC and to my knowledge none of them have any evidence of the oil industry polluting Cook Inlet.

Sediment Quality in Depositional Areas of Shelikof Strait and Outermost Cook Inlet. At press release for this study, issued August 15, 2001, states:

"A three year study that looked for hydrocarbon and trace metals in the sediments in Cask Inlet and Shelikof Strait has concluded that contaminants are not linked to oil and gas development in upper Cask Inlet...."

"The study found that concentrations of metals and petroleum-related compounds present today in Shelikof Strait and outer Cook Inlet are not linked to ail and gas development ins Cook Inlet....The study concluded that the residue that is present originates from a combination of natural sources, such as river runoff, eroded coal or rock, and natural seeps."

""The study also found that the concentrations, compositions, and the sources of contaminants in the study area have not increased significantly since oil and gas development began in Cook Inlet in 1963."

""Our Shelikof study confirms and extends the finding of earlier MMS studies which had looked for but also did not find oil industry contaminants in Cook Inlet waters or sediment."

Persistent Chlorinated Compounds and Elements in tissues of Cook Inlet Beluga Whales States:

Report demonstrates that analytes associated with oil and gas are present at similar or lower concentrations in Cook Inlet samples than in samples from Eastern Chukchi or Beaufort stocks.

Final Report for CRCAC Intertidal Reconnaissance Survey in Upper Cook Inlet States:

Reports indicates that no evidence of petroleum hydrocarbon contaminants was observed in Cook Inlet sediments or tissues of bivalves.

3. Chevron presently collects and analyzes for at Trading Bay Production Facility:

Weekly: copper, lead, Ph, oil and grease, total aromatic hydrocarbons (TAH aka benzene, toluene, xylene) and total aqueous hydrocarbons (TAQH aka naphthalene, etc.).

Quarterly: Whole effluent toxicity (WET) testing on oysters or clams.

Annually: WET testing on shrimp and fish.

4. This is right off of CIRCAC's Web site: To date, the small database of Background sediment and tissue data show very low concentrations of hydrocarbons in sediments and in tissues,

5. With this said I do not see that imposing more stringent testing to be of value to the existing facilities.

The reissuing of this WDES permit is important not to hundreds (like I heard last night) but to thousands that work, live and play on the Kenai Peninsula. As far as pristine goes from last night. On my drive back to Soldotna last night I mentioned to my co-workers of the beauty of the land (14 moose near road system) and the view over Cook Inlet in Areas.

Again thank you for your time.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: Wayne Johnson

Organization: N/A

Comment ID CI-291.001

I'm not really a speaker so I'm just going to read what I typed up today.

My name is Wayne Johnson, and I'd like to thank all of you for being here tonight. I've seen all of you in Homer last night. I went to the public comment for the re-issuing of the new NPDES permit in Homer last night and I would like to make a few comments on my own.

One gentleman said he had been a commercial fisherman for 30 years. The oil industry has been here for over 40 years, and there has been no known contamination of fish reported in Cook Inlet from the oil industry.

Several individuals spoke on no testing being done. In fact, there has been studies done since 1992 to 2004. 22 that I have paperwork for. Of these 22, 11 were prepared for CIRCAC, and to my knowledge none of them have any evidence of the oil industry polluting Cook Inlet.

Sediment quality in dispositional areas of Shelikof Strait and the outer most Cook Inlet, I have press release for the study issued August 15th, 2001 that states a three-year study that looked for hydrocarbon and trace metals in sediments in Cook Inlet and Shelikof Strait has been concluded, and the contaminants are not linked to oil and gas development in upper Cook Inlet. The study found that concentrations of metal and petroleum-related compounds present today in Shelikof Strait and outer Cook Inlet are not linked to the oil and gas development in Cook Inlet. The study concluded that the residue that is present originates from the combination of natural resources, such as river run-off, eroded coal or rock, and natural seeps. The study also found that the concentrations, compositions and the sources of contaminants in the study area have not increased significantly since oil and gas development began in Cook Inlet in 1963. Our Shelikof study confirms and extends the findings of earlier MMS studies which have looked for but also did not find oil industry contaminants in Cook Inlet waters or sediments.

Persistent chlorinated compounds and elements in tissues of Cook Inlet Beluga whale states: The report demonstrates that abnalties [sic] associated with oil and gas are present as similar or lower concentrations in Cook Inlet samples than in samples from eastern Chukchi or Beaufort stocks.

Final report for CIRCAC entitled reconnaissance survey in upper Cook Inlet states: Reports indicate that no evidence of petroleum hydrocarbons contaminants was observed in Cook Inlet sediment or tissues of bivalves.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-291.002

Chevron, which I guess you can tell who I work for now, Chevron presently collects analyses for Trading Bay production facility. Weekly they test for copper, lead, pH, oil and grease, and total aerobic hydrocarbons and total aqueous hydrocarbons. Quarterly they check for whole effluent toxicity testing on oysters and clams, annually WET testing on shrimp and fish.

This is right off the CIRCAC website: To date, the small database of background sediment and tissue data show very low concentrations of hydrocarbons in sediment and in tissue.

With this said, I do not see that imposing more stringent testing to be of value to the existing facilities. The re-issuing of this NPDES permit is important not to hundreds, like I heard last night, but to thousands that work, live, and play on the Kenai Peninsula.

As far as pristine goes from last night, on my drive back to Soldotna last night I mentioned to my co-workers of the beauty of the land, we'd seen 14 moose near the roadside and the view over Cook Inlet. Again, I thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: David LaLiberte

Organization: Liberte Environmental Associates

Comment ID CI-141.001

EPA is proposing to reissue an NPDES general permit authorizing wastewater discharges from oil and gas exploration, development, and production facilities in Cook Inlet, Alaska. There are 18 existing facilities discharging into Cook Inlet with new facilities capable of being brought on line under the draft permit. These discharges contain toxic and bioaccumulating contaminants with the potential to adversely affect Cook Inlet water quality, sediments, and organisms. This report evaluates the magnitude, transport, fate and likely effects of these discharge contaminants on Cook Inlet water quality. This report provides technical comments on the draft NPDES permit.

Response

Thank you for your comment.

Comment ID CI-141.002

EPA and ADEC have produced a number of draft documents to support reissuance of the NPDES permit for Cook Inlet oil and gas facilities. Key documents reviewed in this report are identified below.

Draft NPDES Permit Documents

EPA Draft NPDES General Permit

EPA, 2006a, final draft permit Authorization To Discharge Under The National Pollutant Discharge Elimination System (NPDES) Oil and Gas Exploration, Development and Production Facilities Located In State and Federal Waters in Cook Inlet, USEPA Region 10, Permit Number: AKG-31-5000, draft March 31, 2006.

EPA, 2006b, final draft Fact Sheet: Oil and Gas Exploration, Development and Production Facilities Located In State and Federal Waters in Cook Inlet, USEPA Region 10, Permit Number: AKG-31-5000, draft March 31, 2006.

Also, for comparison, the existing NPDES permit is evaluated in this report. That is, EPA, 1999, existing permit Authorization To Discharge Under The National Pollutant Discharge Elimination System (NPDES) for Oil and Gas Exploration, Development and Production Facilities, for Cook Inlet, USEPA Region 10, Permit Number: AKG-28-5000 (permit now numbered AKG-31-5000), April 1, 1999.

ADEC Draft 401 Certification

ADEC Draft 401, 2006a, draft 401 Certification of NPDES Permit No. AKG-31-5000 (formerly AKG-28-5000) Cook Inlet Oil and Gas Exploration, Development and Production Facilities Located in State and Federal Waters, February 17, 2006.

Other Supporting Documents

EPA EA, 2006c, draft Environmental Assessment: Reissuance of a NPDES General Permit For Oil And Gas Exploration, Development and Production Facilities Located in State and Federal Waters In Cook Inlet, Alaska, for USEPA, Region 10, by Tetra Tech, Inc.

EPA ODCE, 2006d, Ocean Discharge Criteria Evaluation For The Cook Inlet NPDES Permit, prepared for U.S. EPA Region 10, Office of Water, prepared by Tetra Tech, Inc., Draft Revision No. 1, January 24, 2006.

Parametrix, 2004d, Mixing Zone Application for Cook Inlet Oil and Gas Operators, submitted to ADEC, for Unocal Corporation, ConocoPhillips Alaska, Inc., and XTO Energy, Inc., August 5, 2004.

Parametrix, 2005a, Revisions to Mixing Zone Application for Cook Inlet Oil and Gas Operators NPDES Permit No. AKG-285000, submitted to ADEC, for Unocal Corporation, ConocoPhillips Alaska, Inc., and XTO Energy, Inc., October 20, 2005.

Draft Permit Review

The above draft documents were intended to support one another and this review takes that into account. Where crucial information or data is advanced in the draft permit, fact sheet, and 401 certification, backup information was sought and reviewed to confirm facts. In particular, water quality data and mixing zone modeling is essential in developing effluent limitations and demonstrating permit compliance. Additional analysis in these areas was performed for this report.

Response

Thank you for your comment.

Comment ID CI-141.003

Cook Inlet and Receiving Waters

The draft permit would cover oil and gas exploration, development, and production operations that discharge wastewater from 18 existing facilities into northern, i.e., upper Cook Inlet. New source discharges would also be allowed throughout Cook Inlet both state and federal waters.

The receiving water mixing zone approach, as performed by Parametrix on behalf of the dischargers, allows unrestricted discharge of toxic contaminants into Cook Inlet because no limitation is placed on the acute mixing zone toxicity boundary distance, and chemical bioaccumulation is not reliably considered. This approach is not consistent with EPA mixing zone guidance yet is followed by ADEC in the draft 401 certification, and relied upon in the draft NPDES permit and fact sheet. [EPA TSD, 1991]

Response

Please reference the following in the Response to Comment Document:

Response # 234

Comment ID CI-141.004

Ocean Discharge Criteria

The Clean Water Act (CWA) Section 403, Ocean Discharge Criteria (ODC), applies to discharges into Territorial Seas and Federal Waters as allowed under the draft NPDES permit. The discharges from upper Cook Inlet may also impact Territorial Seas and Federal Waters in violation of the ODC.

In addition, insufficient information exists to find no unreasonable degradation of the marine environment. Hydrodynamic and density gradient conditions in lower Cook Inlet are not considered at all in the “discharge rate and depth limits for drilling fluids” dilution formulation advanced in the draft permit. Ambient vertical density variations, two dimensional horizontal tidal circulation effects, non-uniform velocity vertical profiles, and tidal reversal are all apparent in lower Cook Inlet. None of these factors were considered, as they relate to the ODC, in the draft permit although site dilution, pollutant transport and the fate of chemical discharges are all affected by these hydrodynamic and density conditions.

Response

Please reference the following in the Response to Comment Document:

Response # 103

Comment ID CI-141.005

EPA’s ODC Evaluation does not consider any of these conditions [CI-141.004] yet states, “Due to the minimal pollutant concentrations and/or low volume of the remaining discharges, the potential for bioaccumulation or persistence of contaminants is low.” [See page 111 of EPA ODCE, 2006d] Because the mixing zone analysis is flawed, this conclusion cannot be supported.

Response

EPA has clarified that the ODCE does not apply to existing discharges, all of which are located in coastal waters. The discussion of mixing zones has been removed from the ODCE.

Comment ID CI-141.006

Of particular concern are the persistent bioaccumulating toxins (PBTs) authorized for discharge. Bioaccumulating chemicals receive only cursory EPA comment in the draft ODCE without evaluation relative to bioaccumulation. Moreover, no chemical-specific analysis was ever performed even though cadmium, mercury, and PAHs are all permitted for discharge under the draft permit and are well-known bioaccumulating chemicals.

Response

EPA has clarified that the ODCE does not apply to the existing discharges due to their location in coastal waters. Non-aqueous based drilling fluids and produced water discharges are among the discharges that could potentially contain cadmium, mercury, and PAHs. Under this permit, produced water discharges would be prohibited in federal waters and territorial seas and are not expected to present a source of these contaminants. The other discharges are expected to be minimal and are not considered to present a threat via bioaccumulation.

Comment ID CI-141.007

EPA's and ADEC's use of an unrestricted mixing zone sizing approach for acute toxicity boundaries may also result in unreasonable degradation of the marine environment. The unrestricted mixing zone sizing approach is used in the EPA's draft permit and fact sheet, ADEC's draft 401 certification, and the dischargers' mixing zone application. Although the EPA, ADEC, and Parametrix documents state that the draft permit adheres to the TSD, this is not the case when setting the acute toxicity boundary. This is discussed in detail in Section 4 below.

Response

Please reference the following in the Response to Comment Document:

Response #2

Comment ID CI-141.008

Scientific reports associated with Cook Inlet bathymetry, water velocities, tidal conditions and flow circulation have been examined in this report. [Moore, et al., 2000] Additional Cook Inlet hydrodynamic information is discussed in Section 4: Effect of Mixing Zone Dilution Allowances.

Figures 1 through 3 show Cook Inlet general bathymetry, major rivers, salinity isohalines, surface circulation and tidal rips.

Freshwater Inputs

Freshwater inflows from rivers play a significant role in Cook Inlet hydrodynamics, and they affect salinities and cause water density variations throughout Cook Inlet. Important rivers discharging to Cook Inlet are depicted in Figure 2. The three primary rivers are the Susitna, Matanuska, and Knik rivers, which have a combined peak discharge of about 90,000 cubic meters per second that occurs in July through August. [MMS, 2003]

Ice cover typically increases from November through February and decreases until April when Cook Inlet becomes ice-free. Freshwater inflow from rivers can effectively cease during cold months because of freezing conditions. The effect of removing freshwater inflows from Cook Inlet is to increase flushing time, and increase contaminant mean detention time in Cook Inlet. [pages 274-276, Fischer, et al., 1979] Increased residence time in upper Cook Inlet would promote sediment deposition and provide greater opportunity for bioaccumulation of contaminants in organisms. [Thomann and Mueller, 1987; Metcalf & Eddy, 2003]

Response

Thank you for your comment.

Comment ID CI-141.009

Seawater enters lower Cook Inlet from the Alaskan Coastal Current (ACC), and generally flows north up the Inlet's east side and south down the west side. Freshwater from rivers, and land runoff, significantly reduces salinity in upper Cook Inlet during summer. Salinity rapidly increases from Anchorage to the East and West Forelands (Fig. 1). During summer and autumn, salinity varies from about 26‰ at the Forelands to roughly 32‰ at the entrance to Cook Inlet. [Gatto, 1976; Moore, et al., 2000]

High-salinity water on the eastern side and low-salinity water on the western side is a characteristic of Cook Inlet in the summertime. [Okkonen, 2005; Moore, et al., 2000; Muench, et al., 1978] In the lower inlet, lines of equal salinity (isohalines) contours vary with tidal currents, with local areas of depressed salinity near the mouths of glacially-fed rivers and streams. Moore, et al., 2000 found beluga groups near the river mouths of the Beluga, Susitna, and Little Susitna Rivers (Regions 1 and 2 in Figure 5). These are locations where freshwater discharge mixes with saline waters, which constitute estuarine conditions. These conditions predominate in upper Cook Inlet where existing oil and gas facilities are located. In June 1994, water temperatures were fairly uniform in nearshore and offshore waters of the upper inlet. [Moore, et al., 1976] By July, temperatures in upper Cook Inlet usually warm to 14°–17°C compared to the 8°–10°C sea surface temperatures at the mouth of the inlet and 11.5°–15°C in Kachemak Bay [Bakus, et al., 1979; USACE, 1991; Piatt, 1994]

Response

Thank you for your comment.

Comment ID CI-141.010

Tides in Cook Inlet are semidiurnal, with two unequal high and low tides per tidal day, which equals about 25 hours. The mean diurnal tidal range varies from about 6 m (19.7 ft) at Homer to about 9.5 m (31.2 ft) at Anchorage. Three tidal rips (west, mid-channel, and east) are commonly observed east of Kalgin Island, extending south to about Chinitna Bay (Figure 3). [Moore, et al., 2000; Burbank, 1977] Tidal bores of up to 3.2 m (10 ft) occur in Turnagain Arm (Figure 3).

Surface circulation in upper Cook Inlet is driven by the mixing of incoming and outgoing tidewater combined with freshwater inputs (Figure 3). A southward flow along western lower Cook Inlet is due to the Coriolis Force acting on freshwater entering the upper inlet from rivers. Current velocities average about 3.45 fps (3 knots) but are locally influenced by shore configuration, bottom contour, and winds. [USACE, 1993] Lower Cook Inlet connects to the Gulf of Alaska (GOA) through Kennedy and Stevenson Entrances and Shelikof Strait. The ACC flows along the inner shelf in the western GOA and flows northward along the eastern side of Cook Inlet. The relatively fresh turbid upper Cook Inlet outflow meets and mixes with incoming ACC water in the central inlet. This mixture flows along western Cook Inlet and outflows to Shelikof Strait. [Moore, et al., 2000]

Response

Thank you for your comment.

Comment ID CI-141.011

The draft permit states the requirements for a general permit as

“H. Requirements for an Individual NPDES Permit

1. The Director may require any permittee to apply for and obtain an individual NPDES permit when any of the following conditions exists:

- a. The discharger is not in compliance with the conditions of this general permit;
- b. A change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
- c. Circumstances have changed since the time of the request to be covered so that the discharger is no longer appropriately controlled under this general permit; or
- d. The discharge(s) is a significant contributor of pollutants. In determining whether a discharge is a significant contributor of pollutants, the Directors will consider the factors set forth in 40 CFR § 122.28(b)(3)(i)(G).”

TBPF Appears Non-Compliant

The TBPF discharge into Cook Inlet appears to be non-compliant based on the existing permit. The ADEC/Parametrix CORMIX analysis, which forms the basis of effluent limitations in EPA’s draft permit for specific toxic chemicals, demonstrates the noncompliance condition. The existing permit should achieve compliance for discharge of TAH/TAqH within 300 meters. [EPA, 1999; and EPA, 1995a] At a maximum TAqH RPA value of 20,551 microgram/l, and a dilution rate of 215 at the existing 300-meter mixing zone boundary a TAqH level of 95.6 microgram/l occurs. This exceeds the TAqH criteria of 15 microgram/l. [Parametrix, 2004 a and 2005a; EPA, 1995a] If the mean historical effluent value of 9,852 microgram/l is used, then a TAqH level of 45.8 microgram/l occurs, which is three times the 15 microgram/l standard. The same lack of compliance is exhibited with TAH. Accordingly, the TBPF may require an individual NPDES permit to maintain consistency with the draft NPDES general permit compliance conditions (see Section I.H.1.a, page 14 of draft permit).

Response

Please reference the following in the Response to Comment Document:

Response # 104

Comment ID CI-141.012

The TBPF mixing zone length for the existing outfall also violates 18 AAC 70.240(k)(1)(A) for mixing zones, which states, “the cumulative linear length of all mixing zones intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water may not exceed 10 percent of the total length of that cross section”. The intersecting upper Cook Inlet cross-section is about 28,100 meters at the TBPF but the existing outfall relies on a corresponding mixing zone length of 5,791 meters in the draft permit fact sheet. Thus, the existing outfall mixing zone length is 20.6 percent of the intersecting cross-section (i.e., 5,791/ 28,100) and easily exceeds the 10 percent restriction.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-141.013

Other Dischargers May be Non-Compliant

Comparison of increases in TAH/TAqH mixing zone length requirements suggests noncompliance with water quality based permit effluent limits may exist for a number of facilities. For produced water, seven of the eight dischargers exceed the existing permit-based mixing zone distances, and require expanded mixing zones to dilute increased pollutant loads. [See Table 4 in Appendix E] Accordingly, additional dischargers may require individual NPDES permits.

Response

Please reference the following in the Response to Comment Document:

Response # 105

Comment ID CI-141.014

Table 1 (in Appendix E) shows the range of toxic chemicals that may be released from oil and gas facilities. There are 18 existing facilities discharging into Cook Inlet with new facilities capable of being brought on line under the draft permit. The following effluent types will be discharged under the draft permit:

- 001 Drilling Fluids and Drill Cuttings
- 002 Deck Drainage
- 003 Sanitary Wastes
- 004 Domestic Wastes
- 005 Desalination Unit Wastes
- 006 Blowout Preventer Fluid
- 007 Boiler Blowdown
- 008 Fire Control System Test Water
- 009 Non-Contact Cooling Water
- 010 Uncontaminated Ballast Water
- 011 Bilge Water
- 012 Excess Cement Slurry
- 013 Mud, Cuttings, Cement at Seafloor
- 014 Waterflooding Discharges
- 015 Produced Water and Produced Sand
- 016 Completion Fluids
- 017 Workover Fluids
- 018 Well Treatment Fluids
- 019 Test Fluids
- 020 Storm Water Runoff from Onshore Facilities

Of these, produced water generates the greatest flow volume for dischargers covered under the draft permit.

Discharges of heavy metals will also result from a number of the effluent types identified above, including drilling fluids and drill cuttings.

Response

Thank you for your comment.

Comment ID CI-141.015

A number of chemical types may be discharged from oil and gas facilities under the draft permit. Key effluent parameters are discussed in the following subsections.

Total Suspended Solids

Oil and gas facilities are permitted to release total suspended solids (TSS) into Cook Inlet under the draft permit. Effluent toxicants can adsorb onto suspended particles in the discharge. [Pages 506-516, Thomann and Mueller, 1986]

Polynuclear Aromatic Hydrocarbons (PAHs)

PAHs are a class of organic compounds consisting of two or more bound aromatic benzene rings. PAHs are toxic to numerous organisms including fish. Bioavailable PAHs will likely find their way into the tissue of organisms through food pathways and through the water column [WDFW Toxic Contaminants, 2001; WDFW, 1992-2000]

Oil and Grease

PAHs may also be present in oil and grease discharges into Cook Inlet. Since floating oil is excluded from TAqH measurements it appears oil and grease may comprise an additional unquantified source of PAHs released from oil and gas facilities.

Metals

Metals potentially discharged under the draft permit are listed in Table 1. Many of these metals are acutely and chronically toxic. Heavy metals, such as mercury and cadmium, can bioaccumulate and may pose additional problems beyond acute and chronic toxicity. [EPA Criteria, 1986]

Response

Thank you for your comment.

Comment ID CI-141.016

The RPA employed by the EPA is inconsistent with the TSD. [See pages 56 and 57, EPA TSD, 1991] In many instances, the EPA analysis ignores the historical effluent record in developing RPA values that are used to determine whether effluent limitations will be required in the draft permit. The historical record is fundamental to RPA analysis for toxic chemicals since it is a statistical analysis that relies on the frequency of effluent monitoring to determine the likely maximum effluent concentration that may occur.

In large part, ADEC and EPA disregard the historical effluent statistical data for toxic chemicals submitted by the dischargers in the mixing zone application. [Parametrix, 2005a] RPA is not a function of Cook Inlet dilution as the EPA erroneously employs it in the draft fact sheet. [See Appendix A of EPA, 2006b] RPA is only dependent on historical maximum concentrations and the permit frequency of sampling. [See Pages 56- 57, EPA TSD, 1991] Accordingly, the EPA's RPA is not consistent with the TSD. Most of the maximum daily concentrations used for effluent limitations in the draft permit are substantially greater than has historically occurred even when RPA multipliers are taken into account. [Compare to Table C-1f of Parametrix, 2005a] Table 9a shows by how much EPA's flawed RPA approach inflates maximum daily limits over existing operating maximums. Similarly, increases in average monthly limits in the draft permit shown in Table 9b. These tables demonstrate how much the limits are inflated above historical mean concentrations, and hence increase mass loadings.

Response

Please reference the following in the Response to Comment Document:

Response # 106

Comment ID CI-141.017

ADEC's draft 401 certification also mischaracterizes increased effluent limits as pollutant loading reductions by using RPA values and stating that maximum daily concentrations control total pollutant mass loadings. [See page 10, ADEC Table 5 of the draft 401] However, for example, the monthly average concentration is increased from 12,200 ug TAH/l to 13,130 ug TAH/l at TBTF. This results in a monthly pollutant mass load increase of 334 lbs every day of the month for a total increase of 10,020 lbs per month at the existing facility flow rate of 5.6 MGD.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Response # 9

Comment ID CI-141.018

The guidance provided in the TSD for calculating mixing zones is inaccurately characterized and poorly cited in the draft permit and fact sheet, the draft ADEC 401 certification, and the Parametrix reports relied upon by EPA and ADEC. The TSD fixes the distance of the acute toxicity boundary based on the outfall discharge length scale, or from the discharge point itself. ADEC and Parametrix did not apply this factor in the modeling.

The expert system contained within the CORMIX model employed by ADEC and Parametrix explicitly requires the input of TSD parameters to determine the acute toxicity mixing zone. CORMIX shows that the toxic dilution zone (TDZ) is subject to the same discharge length scale criteria as listed on page 72 of the TSD. That is, the TSD and CORMIX both calculate the fixed distance to the acute toxicity boundary using the exact same method, which is 50 times the discharge length scale, i.e., 50 times the square root of the discharge port area. As indicated by CORMIX, the criterion maximum concentration (CMC), i.e., acute toxicity criteria, must be satisfied based on the distance sizing criteria set forth in the TSD. These acute boundary distance criteria were ignored in the ADEC and Parametrix analyses. Rather, ADEC and Parametrix replaced the TSD requirements with an arbitrary acute toxicity boundary sizing approach that is not protective of the aquatic environment. The result is that the EPA/ADEC/Parametrix approach allows for an acute mixing zone determined solely by how much pollutant load the discharger desires to release.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 2

Comment ID CI-141.019

Nevertheless, ADEC claims to have used the TSD to develop the mixing zones in the CORMIX analysis:

“Item 5. You [Dave LaLiberte] state that neither DEC nor Parametrix use EPA's Technical Support document for developing the mixing zones. This was the document used by DEC and Parametrix, however by discussion with yourself, if I understood you correctly, it would appear that your misunderstanding of this comes from interpretations of the classification of Cook Inlet, i.e. whether it is an estuary or not. Your opinion is that it should be considered an estuary as described in the Technical Support Document Section 4.4.2 item 3, Estuaries and Coastal Bays, and that the critical conditions analyzed should be at slack and maximum current. DEC considers this water body to fall under Section 4.4.2 item 4, Oceans whereby the critical conditions are the 10th and 90th percentile currents. EPA agreed with the use of the 10th and 90th percentile currents.”

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-141.020

Even if ADEC and EPA did adhere to the TSD, as they claim, the numbers still do not add up. The EPA draft NPDES permit is based on an arbitrary approach for setting effluent limits, which uses unrestricted mixing zone sizing of acute toxicity boundaries. The TSD does not allow this for any mixing zone analysis for any type of waterbody. [see Section 4.3.3- Prevention of Lethality to Passing Organisms, Pages 71 and 72 of EPA TSD, 1991] EPA's draft permit and fact sheet, ADEC's draft 401 certification, and the dischargers' mixing zone application all employ this un-protective approach. Although the EPA/ADEC/Parametrix documents state that the draft permit adheres to EPA mixing zone guidance, this is significantly not the case as it regards acute toxicity boundary criteria presented in the TSD. [pages 71-72, EPA TSD, 1991] Table 3a shows the acute mixing zone boundary distances, for the various facilities covered by the draft permit for produced water, compared as a percentage of the TSD distance. Tables 3b and 3c show the chronic mixing zone boundary distances for the various facilities compared as a percentage of the TSD distance. Mixing zone lengths used in the tables are from the draft permit fact sheet (see page 38, Table 4 of the fact sheet) and the mixing zone application [Table ES-1 in Parametrix, 2005a]. The mixing zone application describes these lengths as radii. Additionally, the TBPF mixing zone length for the existing outfall is taken from the mixing zone application.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-141.021

Response

Comment ID CI-141.022

These tables show that the mixing zone distances were not properly calculated with the TSD methodology. An explanation can be found in the TSD itself. Both the estuarine and ocean waterbody designations in EPA's TSD, section 4.4.2 Critical Design Periods for Waterbodies, page 74, identify stratification as an important consideration in determining effective mixing at discharge sites.

Response

Please reference the following in the Response to Comment Document:
Response # 234

Comment ID CI-141.023

The full TSD guidance for mixing zone studies for ocean conditions is as follows:

“4) Oceans

Critical design periods for ocean analyses are described in two separate documents, the Section 301 (h) Technical Support Document [22] and the Section 301 (h) document, Initial Mixing Characteristics of Municipal Ocean Discharges [24]. The following subsection contains a summary from these documents. Like discharges to estuaries, discharges to ocean waters are subject to two-dimensional horizontal flows. ((Oceanic critical design periods must include periods with maximum thermal stratification, or density stratification.)) These periods shorten the distance of vertical diffusion that occurs in the zone of initial dilution. Thus, during these periods it is difficult to achieve the recommended 100-to-1 dilution that is to occur before the plume begins a predominantly horizontal flow as compared to vertical flow. Periods when discharge characteristics, oceanographic conditions (spring tide and neap tide currents), wet and dry weather periods, biological conditions, or water quality conditions that indicate that water quality standards are likely to be exceeded should also be noted. The 10th percentile value from the cumulative frequency of each parameter should be used to define the period of minimal dilution.”

[TSD, EPA 1991, p. 74] (emphasis added)

The full TSD guidance for estuaries and coastal bays states:

“3) Estuaries and Coastal Bays

This receiving water category encompasses estuaries, which are defined as having a main channel reversing flow, and coastal bays, which are defined as having significant two-dimensional flow in the horizontal directions. For both waterbodies, the critical design conditions recommended here are based on astronomical, not meteorological, tides.

((Determining the nature and extent of the discharge plume is complicated in marine systems by such conditions as differences in tides, riverine input, wind intensity and direction, and thermal and saline stratification. Because of the tidal nature of the estuaries and coastal systems and their complex circulation patterns, dilution of discharges cannot be determined simply by calculating the discharge rate and the rate of receiving water flow (i.e., the design flow.)) For example, tidal frequency and amplitude vary significantly in different coastal regions of the United States. Furthermore, tidal influences at any specific location have daily and monthly cycles. These and additional factors require that direct, empirical steps be taken to ensure that basic dilution characteristics of a discharge to salt water are determined.

In estuaries without stratification, the critical dilution condition includes a combination of low-water slack at spring tide for the estuary and design low flow for riverine inflow. In estuaries with stratification, a site-specific analysis of a period of minimum stratification and a period of maximum stratification, both at lowwater slack, should be made to evaluate which one results in the lowest dilution. In general, minimum stratification is associated with low river inflows and large tidal ranges (spring tide), whereas maximum stratification is associated with high river inflows and low tidal ranges (neap tide).

After either stratified or unstratified estuaries are evaluated at critical design conditions, an off-design condition should be checked. The off-design condition (e.g., higher flow or lower stratification) recommended for both cases is the period of maximum velocity during a tidal cycle. This off-design condition results in greater dilution than the design condition, but it causes the maximal extension of the plume. Extension of the plume into critical resource areas may cause more water quality problems than the high-concentration, low-dilution situation.

Recommendations for a critical design for coastal bays are the same as for stratified estuaries. The period of maximum stratification must be compared with the period of minimum stratification in order to select the worst case. The off-design condition of maximum tidal velocity should also be evaluated to predict the worst-case extent of the plume. “

[TSD, EPA 1991, p. 74] (emphasis added)

**Data Entry Note: Since the database will not accept underline notation, all underlines have been changed to ((double bracketed sections))

Response

Thank you for your comment.

Comment ID CI-141.024

The issue of estuary versus ocean resolves itself when reviewing Cook Inlet studies on hydrodynamics and tidal circulation. Although cited by the EPA in the fact sheet, the estuarine features of Cook Inlet investigated by Okkonen and Howell (2003) were largely disregarded. Nonetheless, EPA’s draft Environmental Assessment indicates that Cook Inlet is an estuary [EPA EA, p. 3-10, 2006c], as does the Final Environmental Impact Statement for Oil & Gas Lease Sales 191 & 199 in Cook Inlet. [MMS, p. III-9, 2003]

Estuarine conditions prevail in Cook Inlet and are well summarized by Moore, et al., 2000 based on Gatto, 1976. [see also, Muench, et al., 1978] Salinity values in Cook Inlet average from 15.0 parts-per-thousand (ppt) in the upper inlet to 24.5 ppt in the lower inlet. All of these values are well below ocean salinity, at 35 ppt, as characterized by conditions in the Gulf of Alaska. Accordingly, ADEC erroneously relied on “ocean conditions” to support EPA’s draft effluent permit limitations.

Response

Please reference the following in the Response to Comment Document:

Response # 13

Comment ID CI-141.025

ADEC and Parametrix also ignored ample evidence that stratification conditions occur in the site-specific area where oil and gas facilities discharge. US Army Corps of Engineers baseline data show that stratification conditions in Cook Inlet exist. [Gatto, 1976; Moore, et al., 2000; Bakus, et al., 1979; Fried, 1999] EPA and ADEC did not evaluate this condition, which was disregarded as indicated by Parametrix (2004b) in their May 20, 2004 email to Scott Wilson (EPA), which states:

11. Parametrix modeled the discharges using a uniform ambient density (i.e.: no stratification). However, there appear to be some data which indicate that at times Cook Inlet has a significant ambient temperature and salinity gradient. What is the rationale for choosing a uniform density?

The CIRCAC report (OKKANEN & Howell 2003) indicated, mid-channel, summer stratification at the Forelands transect with more uniformity along the banks. I did not feel comfortable extrapolating the mid-channel information to the facilities in question since the outfalls are fairly near-shore. I'm not aware of any other stratification data for the upper inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 7

Comment ID CI-141.026

The effect of waterbody misidentification is to assess discharge sites, covered under the draft permit, as though ambient mixing conditions are oceanic rather than the more restrictive estuarine. Neither Parametrix nor ADEC performed the TSD analysis for estuaries, which requires evaluation of mixing zone dilution under slack tide conditions during critical ambient flow conditions. By mistaking oceanic conditions for estuarine conditions in the mixing zone analysis, the draft permit significantly overestimates available dilution for effluent discharges. This is because complex two-dimensional tidal circulations and vertical density gradients (i.e., stratification) in the estuary restrict dilution of effluent throughout the vertical water column. Additionally, estuaries are more confined than the open ocean, which further restricts effluent mixing because shorelines are closer and channel bottoms are shallower compared to open ocean conditions.

Response

Please reference the following in the Response to Comment Document:

Response # 13

Comment ID CI-141.027

In addition, the TSD restricts the length of the acute mixing zone boundary beyond which the criterion maximum concentrations (CMC) cannot be exceeded, i.e., the acute toxicity allowable at the zone of initial dilution (ZID). These restrictions are specified as follows:

“4.3.3 Prevention of Lethality to Passing Organisms

The Water Quality Standards Handbook [14] indicates that whether to establish a mixing zone policy is a matter of State discretion, but that any State policy allowing for mixing zones must be consistent with the CWA and is subject to approval of the Regional Administrator. The handbook provides additional discussion regarding the basis for a State mixing zone policy.

Lethality is a function of the magnitude of pollutant concentrations and the duration an organism is exposed to those concentrations. Requirements for wastewater plumes that tend to attract aquatic life should incorporate measures to reduce the toxicity (e.g., via pretreatment, dilution) to minimize lethality or any irreversible toxic effects on aquatic life.

EPA’s water quality criteria provide guidance on the magnitude and duration of pollutant concentrations causing lethality. The criterion maximum concentration (CMC) is used as a means to prevent lethality or other acute effects. As explained in Appendix D, the CMC is a toxicity level and should not be confused with an LC50 level. The CMC is defined as one-half of the final acute value for specific toxicants and 0.3 acute toxic units (TU) for effluent toxicity (see Chapter 2). The CMC describes the condition under which lethality will not occur if the duration of the exposure to the CMC level is less than 1 hour. The CMC for whole effluent toxicity is intended to prevent lethality or acute effects in the aquatic biota. The CMC for individual toxicants prevents acute effects in all but a small percentage of the tested species. Thus, the areal extent and concentration isopleths of the mixing zone must be such that the 1-hour average exposure of organisms passing through the mixing zone is less than the CMC. The organism must be able to pass through quickly or flee the high-concentration area. The objective of developing water quality recommendations for mixing zones is to provide time-exposure histories that produce negligible or no measurable effects on populations of critical species in the receiving system.

Lethality to passing organisms can be prevented in the mixing zone in one of four ways. The ((first method)) is to prohibit concentrations in excess of the CMC in the pipe itself, as measured directly at the end of the pipe. As an example, the CMC should be met in the pipe whenever a continuous discharge is made to an intermittent stream. The second approach is to require that the CMC be met within a very short distance from the outfall during chronic design-flow conditions for receiving waters (see Section 4.4.2).

If the ((second alternative)) is selected, hydraulic investigations and calculations indicate that the use of a high-velocity discharge with an initial velocity of 3 meters per second, or more, together with a mixing zone spatial limitation of 50 times the discharge length scale in any direction, should ensure that the CMC is met within a few minutes under practically all conditions. The discharge length scale is defined as the square root of the cross-sectional area of any discharge pipe.

A ((third alternative)) (applicable to any waterbody) is not to use a high-velocity discharge. Rather the

discharger should provide data to the State regulatory agency showing that the most restrictive of the following conditions are met for each outfall:

The CMC should be met within 10 percent of the distance from the edge of the outfall structure to the edge of the regulatory mixing zone in any spatial direction.

The CMC should be met within a distance of 50 times the discharge length scale in any spatial direction. In the case of a multiport diffuser, this requirement must be met for each port using the appropriate discharge length scale of that port. This restriction will ensure a dilution factor of at least 10 within this distance under all possible circumstances, including situations of severe bottom interaction, surface interaction, or lateral merging.

The CMC should be met within a distance of five times the local water depth in any horizontal direction from any discharge outlet. The local water depth is defined as the natural water depth (existing prior to the installation of the discharge outlet) prevailing under mixing zone design conditions (e.g., low flow for rivers). This restriction will prevent locating the discharge in very shallow environments or very close to shore, which would result in significant surface and bottom concentrations.

A ((fourth alternative)) (applicable to any waterbody) is for the discharger to provide data to the State regulatory agency showing that a drifting organism would not be exposed to 1-hour average concentrations exceeding the CMC, or would not receive harmful exposure when evaluated by other valid toxicological analysis, as discussed in Section 2.2.2. Such data should be collected during environmental conditions that replicate critical conditions.”

[TSD, EPA 1991, pp. 71-72] (emphasis added)

The first EPA method, i.e., first alternative, is to prohibit concentrations in excess of the CMC beyond the end of the discharge pipe. This alternative does not apply because the EPA and ADEC are not setting acute criteria at the end of pipe.

The second alternative requires discharge port velocities greater than 3 meters per second (mps). Calculations in Table 2 show that discharge velocities at existing flow rates from the nine produced water outfalls are less than 3 mps, and are between 0.04 and 1.89 mps for existing outfall dimensions.

The third alternative requires dischargers to provide data to the regulatory agency showing that the most restrictive of three conditions are met for each outfall. The calculated data in Table 2 show that the second bulleted item above is the most restrictive. This condition requires that the acute toxicity criterion, i.e., the CMC, be met within a distance of 50 times the discharge length scale. The discharge length scale (LQ) is defined as the square root of the discharge pipe (port) cross-sectional area. LQ describes the distance over which the flux area controls the discharge. The discharge length scale requirement fixes the acute boundary distance in space, and does not allow for the unrestricted acute mixing zone boundary approach used by EPA.

The fourth alternative requires dischargers to demonstrate that a drifting organism would not be exposed to 1-hour harmful exposure average concentrations exceeding the CMC. The EPA did not provide this evaluation in the permit development, nor was it provided in the mixing zone application.

[Parametrix, 2004d and 2005a] Mixing zone exposure times were calculated in the application for the 90th percentile, but this is not the critical condition for exposure, nor is it consistent with the TSD. The analysis accepted by EPA and ADEC, and provided by Parametrix, does not provide the slack tide analysis, which would comprise the critical condition for acute organism exposure. Slack tide, when ambient velocities are as close to zero as they will get, and in the case of Cook Inlet are approximately 0.1 mps, characterizes the most critical condition when assessing exposure for drifting organism for acute toxicity. This is because the smaller the velocity, the longer the time the organism spends within the acute mixing zone and the greater the exposure concentration.

The result is that the draft permit will allow violations of water quality standards because acute toxicity will occur in the mixing zone at much shorter distances from the outfall than modeled by ADEC and Parametrix. The EPA ignored this TSD guidance when setting the acute boundaries in the draft permit.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-141.028

After determining the acute toxicity mixing zone, the chronic toxicity mixing zone is determined. Chronic toxicity criteria must be met at the edge of the mixing zone, which must be the smallest possible to be consistent with Alaska's mixing zone regulations, 18 AAC 70.240(a)(2). According to the TSD, the length of the chronic mixing zone boundary can be set at 10 times the acute mixing zone boundary distance (see first bulleted item above). This is the smallest practicable mixing zone length because the acute boundary where the CMC is satisfied, in bulleted items 1 and 2, is set and the chronic boundary length determined. This is also consistent with the acute-to-chronic ratio (ACR), which seldom exceeds 10. [page 58, EPA TSD, 1991] The ACR, therefore, indicates that a chronic toxicity boundary distance greater than 10 times the acute boundary distance is unwarranted and not protective. The chronic boundaries developed by ADEC, however, do not meet the requirement of the TSD, as shown in Tables 3b and 3c. Almost all of the chronic mixing zones calculated by ADEC and Parametrix are significantly larger than 10 times the properly-figured acute boundary distance, shown in Table 3a.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Response # 4

Response # 5

Comment ID CI-141.029

The mixing zone analysis supporting the draft permit is substantially inconsistent with the TSD in five primary respects:

- o Cook Inlet's waterbody classification as an estuary is disregarded
- o Unreasonable ambient flow velocities were used to evaluate critical conditions
- o Vertical density conditions (i.e., ambient stratification) were ignored
- o Non-uniform vertical profiles for ambient velocities were ignored
- o Lack of tidal simulation accounting for buildup of contaminants in dilution water
- o Disregarded seasonal freshwater input effects on tidal circulation and density gradients

Based on review the draft NPDES permit and fact sheet, outfall mixing zone dilutions are routinely overestimated for all the dischargers evaluated.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-141.030

The expansion of mixing zone allowances between the draft permit (2006) and the existing permit (1999) will increase aquatic toxic contamination and long-term bioaccumulation of contaminants. For example, the largest discharger, TBPF at a current flow of 5.6 MGD, is authorized for a 1,930% increase in mixing zone length under the draft permit (see Table 6). Compared to the existing permit, this corresponds to an increase in toxic mass loading of 220% for TAH/TAqH. As shown in Table 6, and with the exception of Tyonek A Platform, the other dischargers that would be authorized by the draft permit have similarly expanded mixing zones from 190% (EFTF) up to 753% (Anna Platform). Accordingly, these seven facilities also have the likely potential to increase toxic mass loadings under the draft permit compared to the existing permit.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Response # 11

Response # 12

Response # 8

Response # 9

Comment ID CI-141.031

The increased loadings of toxic and bioaccumulating chemicals to Cook Inlet will likely result in degradation of water quality. For example, with a current TBPF produced water discharge of 5.6 MGD, average monthly mass loadings of TAqH will increase from 418.6 lbs/day to 919.8 lbs/day under the draft permit. Tables 7a and 7b show that most toxic contaminants will similarly increase under the draft permit with the current flow of 5.6 MGD. Similarly, with a projected TBPF produced water discharge of 8.4 MGD, average monthly mass loadings of TAqH will increase from 418.6 lbs/day to 1380.1 lbs/day under the draft permit, with other contaminant loadings increasing accordingly. Increased toxic and bioaccumulating pollutant loads will also result for most of the eight additional facilities covered under the general permit for produced water because of expansion of mixing zones between the existing and draft permits (see Table 6). In the absence of an ADEC implementation plan for its antidegradation policy, and the likely potential for increased degradation of the aquatic environment, the basis for allowing increased pollutant loadings is unsupported by EPA.

Response

Please reference the following in the Response to Comment Document:

Response # 19

Response # 20

Comment ID CI-141.032

Ambient Flow Velocity

No site-specific ambient velocities were measured by the permittees during the existing permit term, nor did EPA or ADEC require it. For mixing zone analysis, "Current speeds were obtained from the computer software Tides and Currents." [See Page 2, Item 2 of Parametrix, 2004b] No actual ambient velocity analysis is presented in the Parametrix dilution discussion, only two statistical data points at the 10th and 90th percentiles. The data points used were apparently generated based on NOAA water surface elevation predictions from Nikiski, which were computer-generated. In addition, they are not representative of upper Cook Inlet conditions, which have two-dimensional horizontal circulation patterns, exhibit non-uniform vertical density gradients, and stratified ambient flows. [Moore, et al., 2000; Gatto, 1976; Bakus, et al., 1979; Okkonen and Howell, 2003]

Response

Please reference the following in the Response to Comment Document:

Response # 7

Comment ID CI-141.033

The Parametrix analysis used an unreasonable ambient flow velocity of 2.3 meters per second (7.5 fps), generated as the 90th percentile value, in evaluating acute mixing zone boundary dilutions. This produces an exaggerated dilution rate, which results in effluent limitations that will likely allow the discharge of unsafe concentrations of toxic metals and PAHs. The application of high ambient flow velocity to discharges at all facilities, that would be covered by the draft permit including new ones, perpetuates the same overestimation of dilution rates with resultant effluent limitations that will likely cause or contribute to exceedances of water quality standards.

There is no basis in the TSD to justify the ambient flow velocity used in the modeling, even if only ocean conditions are assumed for Cook Inlet, which is the case here. [See Appendix B, Item 5 of Kenwyn George email, ADEC, 2006b] The 90th percentile value, i.e., the high range velocity, is not referenced in the TSD as the critical condition, only the 10th percentile value, i.e., the low range velocity, is considered as the critical value for ocean conditions. The EPA ignores the use of the low range 10th percentile velocity value in the draft permit acute toxicity assessment. Moreover, Parametrix stated in its initial submission: “We believe the mixing zone determination should be based on the 10th percentile current speed. Federal guidance documents consistently suggest that lower current speed scenarios represent the critical condition to consider in coastal waters.” [See Page 1 of Parametrix, 2004a]

Response

Please reference the following in the Response to Comment Document:

Response # 108

Comment ID CI-141.034

Lastly, while ADEC maintains that ocean conditions prevail in Cook Inlet [ADEC, 2006b], the preponderance of the evidence, as discussed above, clearly shows Cook Inlet is estuarine [Moore, et al., 2000; Gatto, 1976; Bakus, et al., 1979; Muench, et al., 1978, Okkonen and Howell, 2003]. Importantly, even the draft Environmental Assessment for the permit states that Cook Inlet is an estuary: “Cook Inlet is a TIDAL ESTUARY with a northeast to southwest orientation...”. [See Page 3-10; EPA EA, 2006c] (emphasis added).

The EA also states:

Naturally occurring and man-made substances enter Cook Inlet waters and are diluted and dispersed by the currents associated with the tides, estuarine circulation, wind-driven waves and currents, and Coriolis force (MMS 2003).

Response

Please reference the following in the Response to Comment Document:

Response # 13

Comment ID CI-141.035

Non-uniform Velocity Profiles

No site specific velocity profiles, i.e., variation of velocities with depth, were provided in the mixing zone analysis although numerous investigators have clearly found that variation in horizontal and vertical velocity profiles are the norm, not the exception, in Cook Inlet. [Moore, et al., 2000; Gatto, 1976; Bakus, et al., 1979; Muench, et al., 1978, Okkonen and Howell, 2003]. Despite this, Parametrix's mixing zone analysis assumes the least protective condition, which uses uniform velocity profiles for all the discharge sites. Additionally, the mixing zone model CORMIX, used by Parametrix and ADEC for the draft permit, cannot evaluate non-uniform velocity profiles. The EPA PLUMES model, however, can evaluate this condition, as shown below. EPA's acceptance of uniform velocity profiles in the mixing zone analyzes does not result in the smallest mixing zone being applied, and is therefore not conservative or protective of the aquatic environment.

Response

Please reference the following in the Response to Comment Document:

Response # 7

Comment ID CI-141.036

Vertical Density Gradients

No site-specific ambient densities, i.e., vertical profiles, were measured by the permittees during the existing permit term, nor did EPA or ADEC require it. Parametrix stated in its May 20, 2004 email to Scott Wilson (EPA):

The CIRCAC report (Okkonen & Howell 2003) indicated, mid-channel, summer stratification at the Forelands transect, with more uniformity along the banks. I did not feel comfortable extrapolation the mid-channel information to the facilities in question since the outfalls are fairly near-shore. I'm not aware of any other stratification data for the upper inlet.

[Parametrix, 2004b, Item 11, p. 6]

Parametrix used temperature and salinity taken from Okkonen and Howell, 2003. However, that report was not a summer study but rather a spring and fall evaluation. Moreover, the temperature and salinity data that were used by Parametrix were based on the Forelands transect, which is not representative of the discharge mixing zone sites. A key consideration is the substantial difference in channel geometry of the deeper and narrower Forelands transect, compared to the much wider and shallower upper Cook Inlet. Waterbody geometry and circulation patterns have a direct effect on local ambient densities and flows. Divergence between the Forelands and upper Cook Inlet geometries is especially apparent in the vicinity of the bays where most of the dischargers are located. Parametrix recognized this but then assumed the least protective density condition, i.e., uniform density profile, at all the discharge sites.

Response

Please reference the following in the Response to Comment Document:

Response # 7

Comment ID CI-141.037

Updated PLUMES Model Analysis

Dilutions for TBPf produced water, simulated for this report using both CORMIX and PLUMES mixing zone models, are compared in Tables 5a and 5b. The right column of Table 5a demonstrates that CORMIX dilutions are consistently greater than PLUMES dilutions by a range of 147% to 349%, depending on distance from outfall. Also, reading down the columns in Table 5a, it can be seen that the calculation of acute and chronic boundary locations is crucial in preventing toxic concentrations of pollutants at the mixing zone boundaries. Table 3 shows the mixing zone boundaries determined by Parametrix and ADEC for the draft permit compared to mixing zone boundaries determined by following the TSD methodology. For TBPf, the acute mixing zone boundary for metals determined using TSD parameters in the CORMIX model is 18 meters, and the chronic boundary for metals is 180.1 meters. The analysis for the draft permit calculated 124 meters and 760 meters for the acute and chronic boundaries, respectively. The draft permit mixing zone lengths are tremendously inflated: 689% in the case of the acute boundary, and 422% in the case of the chronic boundary. In addition, the current mixing zone boundary is 300 meters for TAH/TAqH, and the mixing zone calculated by TSD standards is 180.1 meters. The draft permit mixing zone for TAH/TAqH, on the other hand, is 5,791 meters, or a 3,215% inflation of the mixing zone length.

The right column of Table 5b demonstrates that, when PLUMES dilutions using non-uniform density and velocity profiles are simulated, CORMIX dilutions appear even less protective (in 3 out of 4 cases) ranging from 203% to 1,931% of PLUMES dilutions, depending on distance from outfall. Also, reading down the PLUMES column in Table 5b, it can be seen again that the choice of acute and chronic boundary locations is crucial to preventing toxic concentrations at the mixing zone boundaries. For the acute toxicity boundary, the PLUMES dilution at the existing permit boundary distance of 300 meters is inflated to 345% of the PLUMES dilution at the TSD distance of 18 meters. For the chronic toxicity boundary, the PLUMES dilution at the draft permit boundary distance of 5,791 meters is inflated to 537% of the PLUMES dilution at the more protective mixing zone guidance distance of 180 meters.

Response

Please reference the following in the Response to Comment Document:

Response # 21

Comment ID CI-141.038

Effects of Discharges on Cook Inlet Bottom Conditions

Contact of discharged effluent with the bottom of Cook Inlet affects the outcomes of both the CORMIX and PLUMES mixing zone models. This is demonstrated by the TBPF mixing zone analysis detailed in Appendix D. The likely result of bottom contact is an adverse condition that lowers dilution, which increases benthic organism exposure concentrations, and increases toxic contamination of sediments within and around the mixing zone area. The absence of sediment data analysis in the vicinity of the outfalls is a considerable gap in EPA's draft permit evaluation.

Response

Please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-141.039

Table 6 shows the draft effluent limitations compared to the existing effluent limitations [EPA, 1999]. Effluent limitations, with mixing zone allowances, are required to protect designated uses and to meet numeric and narrative water quality criteria. However, the unlimited mixing zone sizing accepted by EPA in ADEC's draft 401 certification, which is based upon Parametrix's approach, does not consider total mass loading and bioaccumulation of toxic contaminants. [ADEC, 2006a; Parametrix, 2004d; Parametrix 2005a] The TSD discourages relaxing discharge limits because of the provision of a mixing zone (see page 72, Section 4.3.4 Prevention of Bioaccumulation Problems for Human Health of the TSD). Accordingly, the draft effluent limitations will likely cause or contribute to exceedance of water quality standards, which does not protect aquatic life. This is discussed in the previous section.

EPA allows overestimation of effluent dilution for the draft permit and consequently relaxes average monthly effluent limitations in the draft NPDES permit. ADEC and Parametrix overestimate dilutions by: ignoring slack tide analysis when ambient velocities are nearly zero; using a uniform density profile that disregards density variations, such as stratification and stratified flows that restrict vertical mixing in the water column; using a uniform ambient velocity profile that is not representative of estuarine conditions in Cook Inlet where complex non-uniform, two-layer flows exist; using non-representative high ambient velocity values in the far-field, i.e., 90th percentile values rather than 10th percentile values; and using dilutions at distances from the outfall that lack justification under the TSD.

Response

Please reference the following in the Response to Comment Document:

Response # 19

Response # 6

Response # 9

Comment ID CI-141.040

Toxic chemicals, such as PAHs and heavy metals, are persistent bioaccumulating toxins (PBTs), which would be authorized in the draft permit. Studies show sublethal concentrations of toxic pollutants impair physiological functions of salmon and other organisms. [Ott, et al., 2002; Arkoosh, et al., 1998; Healey, 1991; Neff, 2002; Bargagli, et al., 1998; Landahl, et al., 1997; Broman, et al., 1990] PBTs released at any concentration level are likely very harmful to chinook salmon, and other organisms, because of their persistent and bioaccumulating characteristics. The potential for contaminant bioaccumulation is increased under the draft permit compared to the existing permit because the draft permit allows greater mass loadings in Cook Inlet. Aquatic toxicity is not accurately considered in the draft permit because the discharge length scale, consistent with the TSD, was not applied in the modeling to restrict the acute mixing zone boundary.

Response

Please reference the following in the Response to Comment Document:

Response # 102

Response # 19

Comment ID CI-141.041

Unrestricted Mixing Zone Approach Used by ADEC

ADEC applies an unrestricted mixing zone approach in the draft 401 certification, which means that the mixing zone length is whatever is necessary to accommodate the discharge rate and pollutants contained in that discharge. This approach is inconsistent with 18 AAC 70.240(a)(2) which requires the mixing zone to be as small as possible.

Response

It should be noted that the Alaska Water Quality Standards regulations at 18 AAC 70.240(k) do not require that mixing zones be as small as possible, only as small as practicable. There is a great difference between these two terms. As small as possible would require whatever advanced technology, regardless of cost, size, etc. be used. As small as practicable takes into consideration a number of factors, such as space limitations on the platforms.

In addition, please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-141.042

However, the unrestricted mixing zone allows sizing and mass loadings without relation to the bioaccumulating characteristics of toxic contaminants such as PAHs and heavy metals, including mercury.

EPA Mixing Zone Guidance and Bioaccumulation

The TSD cautions against establishing mixing zones for chemicals that bioaccumulate such as PAHs and mercury. As stated in the TSD:

4.3.4 Prevention of Bioaccumulation Problems for Human Health States are not required to allow mixing zones. Where unsafe fish tissue levels or other evidence indicates a lack of assimilative capacity in a particular water-body for a bioaccumulative pollutant, care should be taken in calculating discharge limits for this pollutant or the additivity of multiple pollutants. In particular, relaxing discharge limits because of the provision of a mixing zone may not be appropriate in this situation.

[EPA TSD, 1991, p. 72]

The draft permit authorizes the discharge of persistent toxic chemicals, such as PAHs, some heavy metals, such as mercury, known to bioaccumulate in organisms such as chinook salmon. [EPA Criteria, 1986] For example, the discharge of metals, such as mercury, is typically justified based on meeting short-term mixing zone criteria in the water column near the outfall. However, metals are persistent and do not breakdown beyond the mixing zone. Importantly, metals are typically associated with suspended solids and settle out of the water column in, and beyond, the permitted mixing zone. Accumulation of metals and PAHs in sediments in the vicinity of the mixing zone is likely, and these toxic contaminants remain perennially available to organisms where they bioaccumulate.

Response

The Environmental Assessment evaluated the bioaccumulative effects of chemicals on Cook Inlet marine organisms, including salmon. The EA concluded that there will not be an adverse impact on these organisms as a result of the discharges. In addition, the ADEC fish tissue testing program took tissue samples from 119 fish in Cook Inlet and testing results indicate that the level of metals and organochlorine compounds are generally lower in Cook Inlet organisms than in the rest of the State.

In addition, please reference the following in the Response to Comment Document:

Response # 19

Response # 87

Comment ID CI-141.043

The EPA draft Environmental Assessment [EPA EA, 2006c, see Page 3-60, Table 3-19] indicates that toxic contamination appears in numerous Cook Inlet fish, invertebrates and plants. Fish species include chinook salmon, chum salmon, sockeye salmon, flounder, halibut, sea bass and others. Invertebrates include blue mussel, butter clam, snail and others. Plants include goose tongue, kelp and others. The EA relies on data identified in the Survey of Chemical Contaminants in Fish, Invertebrates and Plants Collected in the Vicinity of Tyonek, Seldovia, Port Graham and Nanwalek—Cook Inlet, AK. [EPA, 2003]

Cook Inlet chinook salmon show elevated levels of total PAHs, mercury, and other contaminants. In particular, the alkylated PAHs, C3-phenanthrenes/anthracenes and C4-phenanthrenes/anthracenes (C3-P/A and C4-P/A), appear in elevated concentrations in chinook salmon. These same bioaccumulating chemicals are also present in wastewater effluents from dischargers covered under the draft permit. These toxic contaminants will also be allowed to increase, over existing permit levels, under the draft permit.

Response

EPA disagrees that the results of tissue sampling indicates that "toxic contamination" appears in Cook Inlet biota. Tissue samples indicate that some contaminants have been detected fish, benthic organisms and plants. The sources of these pollutants, including pesticides is not clear. While some of these contaminants may be present in discharges from oil and gas facilities, the actual source(s) have not been determined and a variety of other sources exist. Sediment sampling found low levels of PAHs in various of locations within Cook Inlet. Closer analysis of these PAHs indicates they originate from a number of sources including natural (unrefined) and combustion sources with no direct evidence to attribute them to oil and gas facility discharges.

Comment ID CI-141.044

Maximum total PAHs (TPAH) contamination in chinook salmon is under-reported in the EA being 553 parts per billion (near Tyonek) rather than the 253 ppb indicated by EPA (see Appendix C). The major contributors to the maximum TPAH are C3-P/A and C4-P/A. Concentrations of C3-P/A and C4-P/A can be contained in wastewater discharges from oil and gas facilities in Cook Inlet. These PAHs have the potential to bioaccumulate. [NPS, 1997]

Response

Thank your for your comment. The EA has been revised to reflect the TPAH concentration of 553 parts per billion in one sample of chinook salmon collected near Tyonek. While C3-P/A and C4-P/A could potentially be contained in discharges from oil and gas facilities, studies conducted to date have been unable to identify exact source(s) of PAHs. Discharges from the oil industry, along with urban runoff and atmospheric deposition have being identified as potential sources.

Comment ID CI-141.045

The presence of C3-P/A and C4-P/A indicates the likely potential that PAHs will bioaccumulate. [NPS, 1997] TPAH including C3-P/A and C4-P/A are identified by CIRCAC as a component of effluent discharged with produced water, i.e., petrogenic. [see pages 148 and 149 of CIRCAC, 2001; see also NPS, 1997] Additionally, bioaccumulation of potentially harmful PAH concentrations is suggested in the EPA survey of Cook Inlet organisms. [EPA, 2003; EPA EA, 2006c]

Metals bioaccumulation, specifically mercury, is another important effluent contaminant released by the dischargers. The EPA's EA summarized mercury contaminant concentrations at elevated levels. EPA's 2003 contaminant survey shows concentrations of total mercury in chinook salmon at 49.4 ug/l near Tyonek (see Appendix C).

Response

Please reference the following in the Response to Comment Document:

Response # 108

Response # 17

Response # 87

Comment ID CI-141.046

Environmental Study Requirements

While the draft permit requires an environmental study on page 71, Section VII, no ambient velocity, salinity and temperature measurements are being required to support crucial mixing zone monitoring.

Response

Verification of the mixing zones is not a goal of this study.

In addition, please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-141.047

Additionally, the proposed study requirements will not capture acute toxicity conditions in the mixing zone because the 50 meter interval easily exceeds acute boundary distances consistent with EPA MZ guidance. Lastly, sample parameter requirements do not include some of the most adverse toxic chemicals known to be in facility effluents. These are mercury, cadmium, chlorinated organics, and PAHs specific to oil and gas facility wastewaters such as alkylated PAHs, C3-P/A and C4-P/A.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 52

Comment ID CI-141.048

The proposed sediment monitoring suffers from many of the same shortcomings of water column testing. The 50-meter sampling interval is too coarse to capture the highly affected sediments right near the outfalls.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 52

Comment ID CI-141.049

The discharger's CORMIX modeling, and the modeling performed for this study, both interactions of the discharged effluent with the Cook Inlet bottom very near the outfall. Again, sample parameter requirements do not include some of the most adverse toxic chemicals known to be in facility effluents and in contact with sediments. These are mercury, cadmium, chlorinated organics, and PAHs specific to oil and gas facility wastewaters such as alkylated PAHs, C3-P/A and C4-P/A.

Response

Please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-141.050

Lastly, no benthic organism sampling in the mixing zone is required in the draft permit although this is the most direct method for determining whether discharged effluents are having an impact on aquatic ecology.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 52

Comment ID CI-141.051

EPA's draft NPDES permit WET testing on organisms fails to capture the synergistic, or total, effects of toxic chemicals acting together in the effluent. [EPA TSD, 1991] This is because overestimated dilutions, as discussed above, are used to dilute effluent to non-representative low concentrations prior to organism exposure.

Response

Please reference the following in the Response to Comment Document:

Response # 100

Comment ID CI-141.052

Organism toxicity exposure levels will also increase under the draft permit. For example, TBPF whole effluent toxicity will be allowed to increase from 96 toxicity units (TU) in the current permit up to 231 TU under the draft permit. This is a 241% greater toxicity than the currently allowed WET average monthly value (see Table 7a).

Response

Please reference the following in the Response to Comment Document:

Response # 183

Comment ID CI-141.053

Additionally, the WET testing does not reliably characterize bioaccumulative effects of toxic contaminants such as PAHs, mercury, cadmium, and other pollutants discharged from the permitted facilities. Accordingly, for bioaccumulating chemicals, mixing zone allowances based on WET testing are inconsistent with the TSD. [EPA TSD, 1991]

Response

Please reference the following in the Response to Comment Document:

Response # 19

Response # 8

Comment ID CI-141.054

The draft permit will increase effluent mass loadings to Cook Inlet, compared to the existing permit, for most discharges. The increases in mass loadings for the TBPF were calculated and are presented in the following subsections.

The draft permit will increase toxic and bioaccumulating chemical loads to Cook Inlet resulting in the degradation of Cook Inlet water quality. For example, TBPF produced water discharges will increase average monthly mass loadings of TAqH from 418.6 lbs/day to 919.8 lbs/day under the draft permit. Increased toxic and bioaccumulating pollutant loads will also result for most of the eight additional facilities covered under the draft permit for produced water. In the absence of an ADEC implementation plan for its antidegradation policy, and the likely potential for increased degradation of the aquatic environment, the basis for allowing increased pollutant loadings is unsupported by EPA.

Response

Please reference the following in the Response to Comment Document:

Response # 20

Response # 9

Response # 99

Comment ID CI-141.055

TBPF Mass Loading Increases with Existing Flow of 5.6 MGD

As shown in Table 7 for the existing flow of 5.6 MGD at TBPF, average monthly mass loadings for TAqH, average monthly mass loadings will more than double from 419 lbs/day to 920 lbs/day (see Table 8 for conditions at 8.4 MGD). For TAqH, which contain bioaccumulating PAHs [EPA Criteria, 1986], the mass loading is over 2 times the existing permit amount for TBPF. TAH mass loading will also more than double, from 279 lbs/day to 613 lbs/day, under the draft permit. Metals allowances will also increase under the draft permit for average monthly mass loadings. Specifically, copper mass loadings will increase from 2.1 lbs/day to 17.7 lbs/day for a total increase of 828% based on average monthly effluent limitations. The increases in mass loads for TAqH, TAH, and copper based on existing effluent flow, will very likely increase background accumulation of these metals resulting in reduced dilution at the outfall because of tidal return (reflux) conditions. [EPA Estuaries, 1992] EPA provided no analysis of this likely adverse effect in setting the effluent limitations in the draft permit based on existing effluent flow.

Response

Please reference the following in the Response to Comment Document:

Response #9

Comment ID CI-141.056

The draft permit including mercury, nickel and zinc is adding metals effluent limitations. All the effluent limitations are in concentrations exceeding water quality criteria at end-of-pipe. For current flow of 5.6 MGD and monthly average concentrations, these additional metals will result in mass allowances of .4 lbs/day for mercury, 46.7 lbs/day for nickel, and 462.3 lbs/day for zinc. For mercury, a well known bioaccumulating metal [EPA Criteria, 1986], this is over 144 times the historical amount of mercury being discharged into Cook Inlet from the TBPF. Mercury has already been shown to accumulate in chinook salmon (Appendix C) and other organisms in Cook Inlet. The increases in mass loads for nickel and zinc based on existing effluent flow, will very likely increase background accumulation of these metals resulting in reduced dilution at the outfall because of tidal return (reflux) conditions. [EPA Estuaries, 1992] EPA provided no analysis of this likely adverse effect in setting the effluent limitations in the draft permit based on existing effluent flow.

Response

The Environmental Assessment evaluated the bioaccumulative effects of chemicals on Cook Inlet marine organisms, including salmon. The EA concluded that there will not be an adverse impact on these organisms as a result of the discharges. In addition, the ADEC fish tissue testing program took tissue samples from 119 fish in Cook Inlet and testing results indicate that the level of metals and organochlorine compounds are generally lower in Cook Inlet organisms than in the rest of the State.

In addition, please reference the following in the Response to Comment Document:

Response # 19

Comment ID CI-141.057

Maximum daily concentrations in the draft permit will also allow increases in mass discharges compared to the existing permit [EPA 1999] and historical effluent data, as shown in Table 7b. [Parametrix, 2005a]

Response

Please reference the following in the Response to Comment Document:

Response # 66

Response # 9

Comment ID CI-141.058

*The TSD fixes the distance of the acute toxicity mixing zone boundary based on the outfall discharge length scale. [EPA TSD, 1991] This guidance was ignored in the EPA analysis although the supporting CORMIX modeling, performed by ADEC and Parametrix in the mixing zone analyses, explicitly identifies it. Acute toxicity mixing zone boundaries set using the TSD are much smaller, and less polluting, than the unrestricted boundaries advanced in the draft permit analysis.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-141.059

* The chronic toxicity criteria must be met at the edge of the chronic mixing zone, which must be the smallest possible to be consistent with Alaska's mixing zone regulations, 18 AAC 70.240(a)(2). The length of the chronic boundary is determined under the TSD as 10 times the acute mixing zone boundary distance. Chronic boundaries developed from the TSD are much smaller, and less polluting, than the unrestricted boundaries advanced in the draft permit analysis.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Response # 5

Comment ID CI-141.060

* EPA routinely overestimates effluent dilution in Cook Inlet and consequently relaxes average monthly effluent limitations in the draft NPDES general permit. Inflated dilutions will likely result in the release of harmful concentrations of toxic chemicals under the draft permit, and increase concentrations of bioaccumulating chemicals, and their uptake by organisms and people, in Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 108

Response # 6

Response # 65

Comment ID CI-141.061

* Estuarine conditions prevail in Cook Inlet. However, ADEC erroneously designates the waterbody as oceanic in the mixing zone analysis. The effect of confusing estuarine conditions for oceanic conditions in the mixing zone analysis is to significantly overestimate available dilution for effluent discharges, especially in winter conditions when freshwater inputs to Cook Inlet may be limited.

Response

Please reference the following in the Response to Comment Document:

Response # 13

Comment ID CI-141.062

* The expansion of mixing zone allowances between the draft permit (2006) and the existing permit (1999) will increase aquatic toxic contamination and long-term bioaccumulation of contaminants. With the exception of Tyonek A Platform, the dischargers have expanded mixing zones from 190% (EFTF) up to 1,930% (TBPF).

Response

Please reference the following in the Response to Comment Document:

Response # 11

Comment ID CI-141.063

* The draft permit will increase toxic and bioaccumulating chemical loads to Cook Inlet resulting in the degradation of Cook Inlet water quality. In the absence of an ADEC implementation plan for its antidegradation policy, and the likely potential for increased degradation of the aquatic environment, the basis for allowing increased pollutant loads is unsupported by EPA.

Response

Please reference the following in the Response to Comment Document:

Response # 102

Response # 20

Response # 99

Comment ID CI-141.064

* Both the CORMIX and PLUMES mixing zone models indicate contact of discharged effluent with the bottom of Cook Inlet. The likely result of bottom contact is an adverse condition lowering dilution, increasing benthic organism exposure concentrations, and increasing toxic contamination of sediments in the vicinity of the mixing zone. The absence of sediment data analysis in the vicinity of the outfalls is a considerable gap in EPA's draft permit.

Response

Please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-141.065

* The TBPF discharge into Cook Inlet does not comply with water quality standards based on existing permit requirements. Accordingly, the TBPF may require an individual NPDES, and the potential for increased discharge volumes under the existing permit raises compliance concerns until a new permit is reissued.

* Similar to TBPF above, comparison increases in TAH/TAqH mixing zone length requirements suggest that water quality standards are not met by permit effluent limits for a number of facilities covered by the draft permit. For produced water, seven of previous eight dischargers exceed the existing permit-based mixing zone distances, and require expanded mixing zones to dilute increased pollutant loads (Table 6). Accordingly, several, if not all, dischargers may require individual NPDES permits.

Response

Please reference the following in the Response to Comment Document:

Response # 104

Response # 105

Comment ID CI-141.066

* Insufficient information exists to find no unreasonable degradation of the marine environment under ocean discharge criteria requirements. Site dilution, pollutant transport and the fate of chemical discharges are all affected by hydrodynamic and density conditions in Cook Inlet but are not evaluated by EPA in setting the draft permit limitations.

Response

Please reference the following in the Response to Comment Document:

Response # 109

Response # 110

Response # 52

Comment ID CI-141.067

* EPA's and ADEC's use of an unrestricted mixing zone sizing for acute toxicity boundaries, and the corresponding effects on chronic mixing zone boundaries, may also result in unreasonable degradation of the marine environment.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-141.068

* ADEC and EPA mostly disregard the historical effluent statistical data, submitted by the dischargers in the mixing zone application RPA. The result is that EPA arbitrarily allows increases in toxic effluent limits, which will result in pollutant loadings well above historical effluent pollutant loadings. For example, at the TBPF, because of increases of the permit monthly effluent limit, pollutant mass load will increase to 334 lbs every day of the month for a total increase of 10,020 lbs per month.

Response

Please reference the following in the Response to Comment Document:

Response # 106

Response # 107

Response # 37

Response # 9

Comment ID CI-141.069

* EPA's draft permit WET testing for organisms fails to capture the synergistic effects of toxic chemicals in the effluent acting together. Overestimated dilutions result in organism exposure to non-representative lower concentrations. Actual organism toxicity exposure levels will also be allowed to increase with relaxed effluent limitations under the draft permit. TBPF will be allowed to increase toxicity to 241% of the currently permitted WET average monthly value.

Response

Please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-141.070

* Moreover, WET testing does not reliably characterize bioaccumulative effects of discharged toxic contaminants such as PAHs, mercury, cadmium, and other pollutants. For bioaccumulating chemicals then, mixing zone allowances based on WET testing are inconsistent with the TSD.

Response

Please reference the following in the Response to Comment Document:

Response # 100

Comment ID CI-141.071

* Maximum PAH concentrations in Cook Inlet chinook salmon is 553 parts per billion (near Tyonek). Similarly, PAHs, which are contained in wastewater from Cook Inlet oil and gas facilities, have the potential to bioaccumulate in unsafe concentrations in chinook salmon and other organisms.

Response

Please reference the following in the Response to Comment Document:

Response # 22

Comment ID CI-141.072

* Some heavy metals are also present in Cook Inlet chinook salmon at elevated levels. In particular, maximum total mercury was found in chinook salmon near Tyonek at 49.4 ppb. Similarly, mercury and other metals, which are contained in the wastewater from Cook Inlet oil and gas facilities, have the potential to bioaccumulate in unsafe concentrations in chinook salmon and other organisms.

Response

Please reference the following in the Response to Comment Document:

Response # 22

Response to Public Comments Submitted By:

Author Name: Serge Leconte

Organization: N/A

Comment ID CI-460.001

My name is Dr. Leconte. I'm not a scientist or a doctor, I'm a philologist and a philosopher, so I'm going to talk to you about logic. I've heard a lot of things around here that don't make any sense at all, especially creating jobs just to pollute the environment is one.

Just because you have jobs and money doesn't give you the right to go and pollute water. Water is all over. You have an ocean, it's a big bowl. Just because you're polluting here in the Cook Inlet and it's going to go somewhere else doesn't mean that this water is going to be clean and someplace else is dirty. There is no such thing as a cleanup.

When the EPA says we're going to clean up this area, where are you putting the junk? Where do you take your garbage? You take it somewhere else. So you clean something and you dirty somewhere else. Doesn't make sense, does it.

You talk about computers, you've talked to me about standards, and the standards keep going down, down, down, down.

I took my first ecology class in 1966, University of Alabama. Standards was one way, now they are worse and worse. The air is getting worse, the water is getting worse. I don't even want to drink anymore.

Have you heard the term ecoterrorism? That's applied to earth water. Now I'm going to apply it to the oil and gas industry.

Ecoterrorism, as a philologist I understand that term to mean when you terrorize the ecology. The ecosystem is terrorized by, one, polluting water to the extent that you can't even do that somewhere else but you're doing it here, and you gave the permit already to filthy the place and you want to give the permit again. Makes no sense.

Response

Thank you for your comment.

Comment ID CI-460.002

When you pollute and kill the fish -- I mean, I don't even want to eat salmon anymore. Mercury, PCBs have been found in halibut and salmon and everything else. Now when you create a bad fish, I'm going to eat that, give it to my kids, they get cancer. What do you call people who kill people, terrorists. To me the gas industry is a terrorist organization, and you guys should look into that. Thank you very much.

I'm a little passionate, sorry.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response to Public Comments Submitted By:

Author Name: Michael Lott

Organization: N/A

Comment ID CI-600.001

Sorry my handwriting is not good. It's L-o-t-t. Thanks for this opportunity to make public comment. I speak to you tonight with 19 years of industry experience. I've read portions of the permit and I have several disagreements. But my comments tonight relate on the whole effluent and toxicity testing, the WET testing.

The new permit would require those covered under the permit to perform this testing once a quarter or four times a year. Presently testing is required on some facilities only once a year for produced water. Testing is performed at different times each year. Increasing the frequency of the test does not seem reasonable.

This permit would require testing of miscellaneous discharge streams that have not been required to be tested in the past. The argument is that there are chemicals added to the streams, and there is problems with that. Some of these discharges may be intermittent and it's difficult to collect samples.

One example of the newly required testing under the permit is for boiler blowdown discharge, number 007. One of the -- on most facilities in Cook Inlet the boilers this refers to may only be operated intermittently during winter months or for short periods. It would not be possible to perform the WET tests on these streams. Procedures, logistics, resources and weather play a key role in the testing. The permit would require being able to predict the weather and the future.

Another scenario would be if a facility were to have an unplanned shutdown of operations during winter months and would need the boiler heat in an emergency. If weather prevented sampling transport, the facility would not be able to run these boilers without being in violation because they would be limited by the WET testing requirements.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Response # 7

Response # 8

Comment ID CI-600.002

These discharges have relatively small amounts of chemical added to the system. I disagree also with testing non-contact cooling water, number 009. This is water pulled from Cook Inlet, run through heat exchangers, and sent overboard. If any chemical is injected into the stream it's intermittent and should be put into perspective. The chemicals used have to be EPA approved and the manufacturer's recommended amounts are used. The facility may discharge 500,000 gallons of non-contact cooling water and a chemical may be added at one to two quarts a day or week. Some of these streams mentioned in the permit -- some other streams mentioned in the permit also fall under the same operating procedures.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Response # 7

Comment ID CI-600.003

If WET testing is required, I don't believe it should be four times a year. The streams never change and the manufacturer's recommended amount is never exceeded, yet the permit would require continued testing throughout the life of the facility. In the past reporting the chemicals used in these systems was sufficient. Facilities treat those streams that are deemed necessary for a safe and environmentally sound facility. Chemical injection is monitored daily to prevent overtreatment or undertreatment.

I don't know what happened to warrant the frequent testing. If it worked in the past, I don't see why it wouldn't work now. Another example of low toxicity in Cook Inlet, the gentleman's comments that they get a very handsome price for their fish, it's another example that I just don't believe that the pollutants are there. So thank you for this time.

Response

Please reference the following in the Response to Comment Document:

Response # 187

Response # 4

Response # 8

Response to Public Comments Submitted By:

Author Name: Janet S. Mabrey

Organization: N/A

Comment ID CI-250.001

I work in the oil and gas industry and support the Cook Inlet operations. This industry has provided income for many of the families that live in Kenai and Soldotna. The company I work for donates in excess of \$80,000 per year to non-profit organization such as schools to improve the way of life here on the peninsula.

I work with very competent and vigilant people who protect our environment here on the peninsula. We enjoy the fishing and boating. My concern is for the livelihood of the people who live here. The industry is a vital part of that. The water tests show no change in the pollution level in the Cook Inlet since the platforms have been in production.

I ask that the industry remains and that their NPDES permit is renewed. It is for the good of the people.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response to Public Comments Submitted By:

Author Name: David Manning

Organization: N/A

Comment ID CI-330.001

I recently read an article mentioning that the amount of waste that oil/gas drilling operations may dump into the inlet may actually increase. As a resident of Anchorage, I find this unbelievable! With most of the oil and gas from these operations being exported, we residents get very little direct benefit from them. As oil/gas runs out in this area it is tempting to loosen environmental regulations to make extracting the last bits of the resource profitable. This is a short-sighted, irresponsible move repeated all over the country in mining and drilling operations. I've visited a number of these sites and the lasting scars remain decades later. Relaxing the environmental rules is beneficial only to the oil/gas companies and not to the people who live here. I realize that resource extraction is "good for the economy." I for one am willing to give up whatever indirect benefits I may incur, economic or otherwise, from these changes.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 37

Response to Public Comments Submitted By:

Author Name: Craig Matkin

Organization: N/A

Comment ID CI-510.001

Thank you for listening to us here tonight. I'm a 30-year resident of the south coast here, most of my time is spent in southwest Alaska and Homer.

I think I'm seeing a little bit of the same story you've been hearing. Basically my overall concern as Marla so eloquently presented it is that we progress, we don't go backwards, this Clean Water Act, be respected for what it is, and that we strive to create a situation where we don't put toxics into the water, period. And the question is, are we at that point where we can do that here in Cook Inlet. And I think that's the question that you have before you, and I think we are at that point.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-510.002

I think we've seen that the energy component of the economy right now is the most profitable segment by far. I think that we've seen that technology is developed to be able to reinject and do other things rather than just simply discharge drilling muds, and there just is really no excuse for it other than we are up in Alaska, it's remote, Cook Inlet flushes in and out pretty strongly, so there is a dilution factor, what the heck.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-510.003

But I just don't think that's the right attitude, and I don't think it's a good attitude for fish, Belugas, or other wildlife or the human population here. So I ask you to really think about it on that level. And can we afford to have zero discharge here? I think we can.

I'd like to just mention briefly, I'm a marine mammal biologist, I've worked some on the Cook Inlet Beluga problem, and the jury is out on the Beluga problem, what's going on. We hoped it was a problem of subsistence hunting being too high, and certainly that was a serious issue, but now after six years of the animals not coming back we realize that's not the only factor involved.

We haven't eliminated anything, and in fact if this is moved into the ESA category, which it probably will be, we're going to start really looking closely at how different factors may be affecting this Beluga population.

Even though there has been some examination of contaminants, PCBs, DDTs and a few heavy metals, the kind of testing that's needed to be done to look at other contaminants, such as polycrystalline aromatic hydrocarbons that aren't as persistent, hasn't been done. There are a lot of things that need to be done if this trend with Belugas goes on.

So I don't think anybody has been exonerated. There is probably a lot of different factors involved in the decline of the Belugas, and there is no excuse to be dumping toxics which could potentially affect these animals when we have the technology to do something different. So I ask you to please keep these things in mind and write the permit for zero discharge, thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 6

Response # 96

Response to Public Comments Submitted By:

Author Name: Roland Maw

Organization: United Cook Inlet Drift Association

Comment ID CI-190.001

United Cook Inlet Drift Association (UCIDA) is an organization of 585 fishermen that are licensed to commercially fish salmon in the waters of Upper Cook Inlet. Our licensed fishing area starts at 59 degrees 46.15' N (Anchor Point latitude) north to Shell C Platform near 60 degrees 45.60' N full width of the Cook Inlet. Within this area just described, we also have four (4) specially described fishing areas (see enclosed yellow map).

Concerning this proposed permit and EPA findings we are in opposition to the following:

1. EPA's preliminary finding of no significant impact (NOSI). We cannot agree that there will be no significant impact on our commercial fishing industry in the additional areas added, described generally as south of the Shell C Platform. The addition of lease sales 191 and 199 to this general permit is inappropriate and will have significant impacts on commercial fishing activities, fishery resources, ecological systems, and hundreds of families. By opening all of the new areas to an unknown number of oil/gas platforms, pipelines, and vessel traffic involved with both exploration and possible production are and will have significant environmental impacts. We must insist that a finding of significant impact be made. We must insist that all the new areas being proposed to be added to the existing permit, generally south of Shell C Platform to Barren Island be handled by an entirely new and separate permit process that recognizes the significant impacts on people, fishing, fish, and our economy.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 35

Comment ID CI-190.002

2. Concerning the Alaska Coastal Management Program (ACMP), consistency determination for General NPDES Permit AKG-31-5000 Facilities Related to Oil and Gas Extraction (formerly AKG-28-5000). We are strongly apposed to including the new areas in the renewal of this general permit. We strongly encourage you to have the additional/new areas covered by a separate new permit.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 35

Comment ID CI-190.003

Concerning 7.4 Placement of Structures: we are totally opposed to the language "To the extent feasible and prudent..." What does that mean?

Sounds like double talk because later in this same sentence it states "... all temporary and permanent developments, structures, and facilities constructed or placed in marine and estuarine waters of the Kenai Peninsula borough area shall be sited, constructed, and operated in a manner that does not create a hazard or obstruction to commercial fishing operations." We understand that statement to mean: no developments can be constructed that create a hazard or obstruction to commercial fishing!

Response

Please contact the Alaska Department of Natural Resources Office of Project Management and Permitting for questions relating to the Alaska Coastal Management Program (ACMP) consistency review procedures.

Comment ID CI-190.004

In 5.9 Geophysical Surveys (c), 2nd paragraph: we read "...balances several uses of state concern and national interest, including the exploration and production of oil and gas resources and the production and utilization of the fisheries of Cook Inlet and the Gulf of Alaska. After considering the information available on the value of the fisheries..." What does the "value of fisheries" mean? How will this value be established and by whom? What happens to the herring fishery low harvests and low economic values? What happens to all the non-commercial species? We take the position that "value" is not a good criterion to use when trying to determine impacts.

Response

Please reference Response to Comment ID CI-190.003, above.

Comment ID CI-190.005

There are hundreds of families that rely on the ecological health and fishery resources of Upper Cook Inlet. We cannot agree to any permit that will result in any reduction of fishing time or areas. The ecological and economic integrity of both the human and natural environments must be maintained. We do not agree that there is a sufficient body of scientific data on Cook Inlet in order for anyone to make a NOSI for these proposed permits.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response to Public Comments Submitted By:

Author Name: Roland Maw

Organization: United Cook Inlet Drift Association

Comment ID CI-191.001

There are additional issues that must be put in the public record regarding this permit. There are two major biological errors in the draft document. On page 3 - 36, under section 3.5.2.1 Anadromous Fish, it states "The Susitna River drainage is a major source of anadromous fish in Upper Cook Inlet". This statement is not true and is a major biological error. Any analysis based on the Susitna River being a major source of anadromous fish in Cook Inlet is also flawed. For the additional new areas to be covered by this permit the Susitna drainage is only a minor contributor to the anadromous fish populations.

Response

EPA acknowledges that the Susitna River does not produce the majority of anadromous fish in Cook Inlet and that the Kenai River along with numerous other creeks and rivers draining the peninsula, produce significant numbers of anadromous species that occur within Cook Inlet. The source of the fish in question is not a critical aspect of the analysis since the principal concern relates to water quality within Cook Inlet rather than the streams and rivers where these species spawn.

Comment ID CI-191.002

The second biological error concerns the fry, and smolt life phases of anadromous fish species. The draft document has virtually NO discussions of the fry, smolt, or juvenile life stages and how these fish species will be affected by the discharges being considered by this permit. There are literally tens of millions of fry, smolt, and juvenile anadromous fish that utilize the marine areas under consideration. The draft document fails to present any meaningful discussions of the existence of these fish, let alone consider the impacts on these fish.

Response

The EA considered all life stages of fish within Cook Inlet. As noted elsewhere in these responses, the impact on aquatic life relied heavily on whether the discharges would meet water quality standards. Water quality standards are established by the state with one objective that they are protective of aquatic life. The process of establishing water quality standards involved its own environmental evaluation. This EA therefore did not consider whether meeting water quality standards would protect aquatic life, rather it considered whether the discharges would meet water quality standards. In this case, EPA determined that aquatic life, including the fry and smolt life phases, would not be affected by the discharges since the discharges meet water quality standards.

Comment ID CI-191.003

In the area of public process no one from Tetra Tech, Inc., as far as we have determined, contacted any of the formally established commercial fishing organizations concerning this permit. No where in any of your scoping activities were we ever contacted for our concerns, views, or available information. As stated in our letter of May 11, 2006, we represent 585 licensed commercial fishermen and their families that rely in the anadromous fish populations in the proposed permit area. In addition to these 585 families there are other commercial fishing organizations in Cook Inlet that represent an additional 1,000+ family/small business. As far as we have been able to determine, none of these other groups were contacted about this permit. In total there are about 1,500 families/small business (es) that directly rely on the ecological health of the Cook Inlet and the anadromous fish species. Again, it appears that none of these groups were contacted for input.

Response

The public outreach process associated with an EA is typically not as rigorous as that associated with an environmental impact statement; however, EPA believes that the full range of issues was adequately identified. The United Cook Inlet Drift Association has identified concerns are related water quality and the effects on anadromous fish species. Similar concerns were identified through interviews with subsistence users and documented in the traditional ecological knowledge report.

The process of evaluating potential environmental impacts is based on an analysis of factual data. While EPA may have obtained additional factual details from the commercial fishing community, there is no indication that any additional issues would have been raised or that outcome would be any different. The analysis indicates the discharges would meet water quality standards. Part of the basis of water quality standards is the protection of aquatic life; therefore, meeting water quality standards will ensure that any impacts to aquatic life, if any, would be minimal.

Comment ID CI-191.004

Secondly, there are other non-anadromous fish stocks that are utilized by recreational and commercial fishing families. As far as we have been able to determine, these families/small business owners were not contacted for input or information.

Response

The NEPA document in this case was an EA and not a full blown environmental impact statement; therefore an exhaustive list of species was not included in the analysis. While the commenter identifies a concern that public outreach was inadequate, EPA believes that the EA addressed the major concerns (i.e. effects on aquatic life) identified by the commercial and recreational fishing communities.

The assessment concluded that impacts to aquatic resources would be minor and primarily related to burial of benthic communities in the immediate vicinity of drilling activities. All discharges would meet water quality standards outside the mixing zones. Since water quality standards are designed to be protective of aquatic life, these discharges would not present a threat to aquatic life.

Comment ID CI-191.005

The Regional Population and Employment in section 3.7.1 page 3-9 1,92, is in error. If we had been consulted, we could have corrected these errors.

Response

Thank you for your comment.

Comment ID CI-191.006

Finally, in section 4.0 Environmental Consequences, there must be a section specifically dealing with commercial fishing. Commercial fishing is a large economic activity in the Cook Inlet area involving thousands of individuals and there needs to be a discussion of the environmental consequences on this industry. While in section 4.4 Marine Water Quality sub part 4.4.1, it states that "Long-term minor adverse effects would be expected". It seems to me that when it states that minor effects would be expected is also in error. That error is founded on both errors of biological data and an error of omission in the public contact process.

Response

The EA considers commercial fishing as part of the socioeconomic analysis. As stated in the EA, the fishing, recreation, and tourism industries are dependant on water quality and biological resources. Since significant effects were not identified for either of these resources, no significant effects are expected for any of these industries. The conclusion that only minor effects would be expected is based on a thorough analysis of the technical information EPA obtained from a wide variety of sources.

Response to Public Comments Submitted By:

Author Name: Roland Maw

Organization: United Cook Inlet Drift Association

Comment ID CI-192.001

Good evening. For the record it's Roland Maw, okay, M-a-w.

I'm going to be making my comments on behalf of the United Cook Inlet Drift Association that I'll call UCIDA as the acronym. That is an association comprising the drift gillnet salmon fishermen out here in the central district of Cook Inlet, and that is some 570,580 families that are using this area, that some of it is in the pink up there and some of it is in the hashed, or the striped blue area. It's where we have our Commercial Entry Fisheries licenses from the state, and that's where we earn our livelihood. The other group that -- and I'm their executive director at the present time and have been for about four years.

The other group that I'll be make some brief comments on is something called the Kenai Wild Cook Inlet Salmon Brand, is the legal title, but for marketing purposes it's called Kenai Wild, and that is an association of 501(c)(3) corporation, that has its specific purpose to produce high quality salmon products. And high quality is defined by special harvest and processing standards and techniques.

The second way we define high quality is the intrinsic quality of the salmon, and that means there is no evidence of residual pollution. And these salmon products, primarily of cohos and sockeyes are put in then to the world market with that concept of high quality with them, and maybe I'll just deal with the Kenai Wild part of this first and then I'll go back to the commercial fishing side of it.

Response

Thank you for your comment.

Comment ID CI-192.002

One of our biggest markets right now is in the EU, European Union, and they have different standards, higher standards than we do about residuals of various heavy metals, toxins, you know, bioaccumulation kinds of issues, and so we need -- from that standpoint, I think we need to be very careful about when you say in your initial determination there is no environmental impact. Gee, I'm not sure you took into account how we market our fish. And this is something that's happened in the last two or three years.

We're selling literally hundreds of thousands of pounds of fillets partly into France, but primarily into England, and that's going into a very high-end smoker market and into fillets that are sliced -- smoked and then sliced, and we get a very handsome price for that. And so what I'm pointing out to you is we may meet state standards, we may meet federal standards, but by doing that you may take us out of that market and cause some harm, and I'm not sure that you have looked at that. So I would ask that you look at that.

Response

Please reference the following in the Response to Comment Document:

Response # 95

Comment ID CI-192.003

And we would like to have an extension to be able -- and time to make those comments to provide you from Kenai Wild, fishing comments so you can do your evaluation, so I think that would be appropriate.

Response

Thank you for your comment.

Comment ID CI-192.004

Let me go back to put my other hat on, as the executive director for UCIDA. I fished out here since 1973, so I've just completed 32 years of commercial fishing out there. And just kind of did a little quick calculation, probably spent well in excess of 10,000 hours out there.

The water that's north of the island, Kalgin Island is quite different than the water south of the island in terms of clarity, turbidity, sediments, and especially in terms of the biology of what's happening out there. So I really object big time about including the pink area that you have up there is the same consideration as the blue hashed area to the north. I think that is a fundamental mistake, and we would not be happy about that at all. I think that's just maybe an oversight. I'm not speaking to what the intentions were, but I think it's a huge mistake. So we would be very much opposed to applying the same permit issues that are currently in place for that area as to that expanded area, I think that's a huge mistake. Anyway, I think I'm about out of time.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 35

Response to Public Comments Submitted By:

Author Name: Roland Maw

Organization: United Cook Inlet Drift Association

Comment ID CI-193.001

Can we have a second turn? I want to just thank you. Roland Maw for the record again.

I just want to clarify a couple things. The current oil and gas exploration activities that are going on, and I don't know how familiar you are with our local geography here, but I'll say north of the Forelands, and that would be out near, if you look at the map, would be about halfway up in that blue area.

North of the Forelands, that's where most of this activity has occurred in the past. That water up there has huge silt loads coming down out of the Knik and Matanuska and Big Su, and so it's very dirty, turbulent water with lots of sediments and activity in there, and certainly the oil and gas development that's gone up there -- you know, and I would probably agree, my background professionally is a Ph.D. in ecology -- that it probably hasn't been any worse than the existing natural conditions.

But my other point was once you move from the Forelands down to the north end of Kalgin Island, the water starts to clear. And by the time you get down to the south end of Kalgin Island, which is now basically in your pink area, that water is very clear. And the presence of cod, smelt, salmon feeding areas in there, bottom fish, your halibut and things like that, there is a huge, huge population rise in those species once you get south of Kalgin Island. And by the time you get south of the can, or there is a little sandbar that comes down eight miles south of Kalgin Island, south of there well into that pink zone you have there, that's quite a different set of ecologies and biologies that are going on based on water quality and turbidity and light penetrations and aquatic zones, that's quite different.

And I guess that's where I really had the concern, was that if you -- now we're going to suggest that we can take what we're doing up in that very turbid, glacial, silty water north of the Forelands and apply the same set of standards down into that pink area. I just, boy, I just don't know how you can do that. I think that's a mistake.

And so the current permit, if the current permit was restricted to the current developed area where the oil and gas has been occurring, fine, we don't have a problem with that. We've lived quite well with that, as many people have said, for 40 years. The only anecdotal thing I would say about that is one time the drift fleet went almost all the way up to Anchorage, until the platforms came in, and then all the sudden it was, "you guys get out".

Response

Please reference the following in the Response to Comment Document:

Response # 35

Comment ID CI-193.002

And so we would ask that we have no loss of fishing time or fishing areas. And on that basis, if you wanted -- I would suggest you bifurcate this permit and deal with those that are the existing area, and then deal with those that are in the new area or the pink area, deal with those differently, because there is quite a different set of ecologies and water qualities and habitats. And that's primarily where we fish, is in that pink area. And a lot of the salmon that are produced that we are interested in come out of the Kenai and Kasilof. Very few of them rear or transit the area where the current oil and gas production is north of the Forelands, so it's not impacting that.

But once you move down along Kalgin Island and south of Kalgin Island into that pink and down into that purple zone, you're down into quite different ecology, and that's where the fish that we depend upon are moving through and feeding in that area. Cohos regularly feed in that pink and purple area, and quite often we catch them, and as they come on board they lay on the deck, they will actually be spewing out little needlefish, the little smelt. So that's a big feeding area, that's a big nursery area.

So I would strongly suggest you bifurcate this permit and deal with the two areas separately. And then the top area, we wouldn't have much to say about that, but certainly once we get down in that lower area we have big concerns, thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 35

Response to Public Comments Submitted By:

Author Name: Marla McPherson

Organization: N/A

Comment ID CI-500.001

Thank you to all of you for being here this evening and for taking our public testimony.

What I understand the Clean Water Act is that it was set up to eventually lead us to a point of zero discharge and to always be moving forward and not ever backwards.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-500.002

And I think, you know, we're a lot of smart people in one room, and we should constantly be focusing our conversations on how can we move forward, how can we progress, how can we be smarter, how can we do things better. It's what we want as residents of this community, it's what the oil and gas industry should want. We should never let there be limitations to always doing a better job.

And I think, you know, regardless of what the science shows us right now, I think there is still a lot of unanswered questions about what happens to our environment when we're adding a lot of different sources of stress to a system.

The oil and gas industry is one source of stress. Our growing population is another source of stress. It's an accumulation of a lot of activities. And you can't say that by adding all of this stress there is no impact. There is impact, we are seeing impacts, and we as a group of citizens who care about the planet should be talking about, okay, we know there is impact, and we can't just go around saying there is no harm because we know that there is some harm, so we need to not be asking, oh, is this harmful or not harmful. We need to say we know they are harmful chemicals, and they are coming from a lot of different sources, so what can each of us do as a player to do better.

And the oil and gas industry need to do better, and I as a citizen living in this community need to do better. So regardless of what the studies are showing, we need to be progressing. And that's what the Clean Water Act was set up to do, it was set up to allow us to progress, and as technology became available, to do a better job at operating in our environment.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 6

Response # 89

Comment ID CI-500.003

And the technology is there, so there is really no excuse why we can't be putting it into effect. We can't say, oh, we can't afford it, because we know the money is there. If it's a priority, we can afford anything in this country, the oil and gas industry can afford it, the citizens can help pay for that cost. If it's a priority, it can be done.

And in regards to jobs, zero discharge will actually create jobs, because it will have to bring people in here to put the technology in place. So it's really good for the economy all the way around, it's good for the oil and gas industry to always be showing they are doing better, and it's good for the people who live here.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-500.004

And frankly it's just unacceptable that there is anywhere in Cook Inlet that doesn't meet fishable standards, because if we're talking about the industry being compatible with the fishing industry and vice versa, it all needs to be a fishable standard. And with the fisherman struggling with the glut of the farmed salmon they really need all the help they can get to market and brand wild salmon. And it's counterintuitive to have areas of the Inlet that aren't meeting fishable standards, when we have commercial fisherman out there who are fishing and needing to brand and market their salmon as wild and clean.

Response

Please reference the following in the Response to Comment Document:

Response # 95

Comment ID CI-500.005

So I think we need to be talking about progress and how to move forward. And one of my favorite quotes is that the Stone Age didn't end for a lack of stone. It's not that our fossil fuel economy is going to end because we are asking our oil and gas industry to do better and to progress and to include more technology and to move into alternative fuels, it's just the direction we need to go as a society.

So I think it's time that we reach that and it's time that we do it in Cook Inlet. So I say zero discharge, thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Steve & Tami McShane

Organization: N/A

Comment ID CI-180.001

It is a sad day when the US. Environmental Protection Agency allows oil and gas related discharges in an area as pristine as Cook Inlet. I'd like to encourage you to visit the area, to discover for yourself the need for protection from such devastating practices. The Cook Inlet is home to a variety of seafood we depend upon for subsistence. By allowing the Inlet to be turned into a toxic waste dump, the fish we depend on for subsistence wouldn't be fit to eat.

Response

Thank you for your comment.

Comment ID CI-180.002

We are not asking you to shut down the oil industry in the area. However, we are asking for the same performance standards that others in the country expect of their coastal oil and gas operators. This would be zero discharge, which is the norm.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-180.003

We call South Central Alaska home, and don't appreciate the thought of having toxins dumped into our back yard, Cook Inlet. If you have any questions, feel free to contact us at (907)-235-1333.

Response

Thank you for your comment.

Comment ID CI-180.004

I AM A EIGHT YEAR OLD GIRL AND I AM REALLY REALLY WORRIED ABOUT PUTTING DRILLING WASTE LIQUIDS INTO COOK INLET-IF YOU POLLUTE THE INLET IT WILL BE REALLY SAD-THE WASTE LIQUIDS WOULD KILL ALL OF THE LITTLE CREATURES IN THE OCEAN, COOK INLET, KENAI RIVER AND KATCHERMAC BAY AND OTHER PLACES- WE ARE VERY DISAPPOINTED IN YOU.

Kylie Mcshane

Response

The Final Permit does not authorize discharges to freshwater such as the Kenai River nor Kachemak Bay. The Environmental Assessment developed to evaluate the potential environmental impacts associated with the oil and gas discharges determined there would not be significant effect on fish and marine mammals in Cook Inlet. However, thank you for your comment and your interest in protecting the environment.

In addition, please reference the following in the Response to Comment Document:

Response # 89

Response to Public Comments Submitted By:

Author Name: Robert D. Mecum

Organization: The National Marine Fisheries Service

Comment ID CI-670.001

The National Marine Fisheries Service (NMFS) has reviewed your draft permit, related Fact Sheet, and Essential Fish Habitat (EFH) Assessment for the reissuance of the Environmental Protection Agency's (EPA) National Pollutant Discharge Elimination System (NPDES) permit for oil and gas exploration activities in upper Cook Inlet, and future exploratory activities within specified areas of upper and lower Cook Inlet. Based on the information in the referenced documents we offer the following comments specific to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Our comments to you under the Endangered Species Act will come under separate cover.

Areas of Coverage

The existing permit covers oil and gas facilities located in Cook Inlet north of a line extending between Cape Douglas (at 58°05'13" latitude, 153°01'15" longitude) on the west and Port Chatham (at 58°13'13" latitude, 157°47' longitude) on the east except for those discharges in waters with a depth less than 5 meters for all facilities, and in waters with a depth less than 10 meters for exploration facilities. Shallow water discharges are less dispersed than deeper water discharges, and thus have a greater potential to impact the abundant aquatic life found in these shallow waters. In addition, the existing permit prohibits discharges in parts of Chinitna, Tuxedni, and Kamishak Bays because they are either areas of high resource value, or are adjacent to areas of high resource value. Kamishak Bay is a known net depositional environment where drilling mud solids and other pollutants will likely accumulate if discharges are authorized.

The proposed permit expands the existing permit's coverage area. The proposed permit coverage area differs from the existing permit coverage area in the portions of Cook Inlet located north and south of a line extending across Cook Inlet at the southern edge of Kalgin Island. EPA proposes to expand the permit coverage area to include areas under the Minerals Management Service (MMS) Lease Sales Nos. 191 and 199, some of which lie outside the southern boundary of the existing permit's coverage area as well as the Territorial Seas adjoining the MMS Lease Sales. The proposed permit coverage area, however, does not include the areas identified under the MMS lease sales as the Lower Kenai Peninsula Deferral Area and the Barren Islands Deferral Area. In general, the expanded coverage area includes the entire Cook Inlet north of Shuyak Island, with the exception of several bays and sensitive areas described in the Fact Sheet and EFH assessment.

Essential Fish Habitat

Section 305(b) of the Magnuson-Stevens Fishery Conservation and Management Act requires federal agencies to consult with NMFS on all actions that may adversely affect EFH. NMFS is required to make conservation recommendations, which may include measures to avoid, minimize, mitigate or otherwise offset adverse effects. EPA has identified the following federally managed species that could be present in the project area: Alaska plaice, Pacific cod, Atka mackerel, walleye pollock, Dover sole, arrowtooth flounder, flathead sole, rockfish, rex sole, rock sole, sablefish, sculpins, skates, squid, salmon, and weathervane scallops.

Effects of Discharges on EFH

Except for the potential occurrence of a large oil spill, the effects of exploration related activities on fisheries resources are expected to be essentially the same as those of development and production. There may be minor differences in the frequency or type of activities between exploration and production, however, those differences would not make a measurable difference on fisheries resources (MMS 2003). EPA states in the EFH Assessment that "several factors indicate that mixing zones and applicable water quality standards, as they relate to the proposed project, would not have more than negligible adverse effects on EFH in the project area." The analysis also states that "The criteria used for mixing zones indicate that other than some organisms near the outfall, no others would be adversely affected."

Drilling Fluids and Cuttings

No discharge of drilling fluids or cuttings would be allowed for new development and production facilities. Existing facilities would be allowed to discharge drilling fluids and cuttings subject to technology-based restrictions (Tetra Tech 2006). The Minerals Management Service (MMS 2003) estimated that the completion of each exploration or delineation well in the proposed project are would result in the discharge of an estimated 140 tonnes (metric dry weight) of drilling fluids and 400 tonnes of cuttings. The drilling of production and service wells from an existing platform is estimated to require disposal of 70 tonnes of drilling mud and 500 tonnes of cuttings per well.

There would be minimal effects to EFH as a result of the discharge of drilling fluids and cuttings because rapid dilution would occur within the mixing zone and the discharge would meet water quality standards outside the mixing zone. Within the mixing zone some sublethal effects and possibly lethal effects (within 1-2 meters) might occur. Overall the EFH Assessment found that adverse effects on EFH from the discharge of drilling muds and cuttings from permitted discharges would be negligible (Tetra Tech 2006).

Produced Water

Federal guidelines for the coastal subcategory of the oil and gas extraction point source category allow the discharge of produced waters to Cook Inlet coastal waters provided these discharges meet monthly and daily discharge limits. These limits are contained in the expired general permit for produced water and would be included without modification, for existing facilities only. Produced water would not be authorized for discharge in either coastal or offshore waters for new sources (Tetra Tech 2006).

EPA has stated that the discharge of processed water may have adverse effects on EFH. New development would reinject produced waters, resulting in minimal direct toxic effects to EFH. For existing wells, bioassay studies of processed water have rated it "slightly toxic" to "practically nontoxic" (MMS 2003) due to the dilution allowed for by the mixing zone. Standards for total petroleum hydrocarbons for existing facilities would result in the State of Alaska's water quality limits being met beyond the mixing zone. However, within the mixing zone the standards would be exceeded, resulting in adverse effects on EFH in the inner portion of Cook Inlet where this discharge would be allowed (Tetra Tech 2006).

EFH Conservation Recommendations

We offer the following recommendations pursuant to section 305(b)(4)(A) of the Magnuson- Stevens Act:

1. Consider the cumulative impacts of the discharges as well other discharges into Cook Inlet, and assure that the permittee is using best available technologies and upgrading their systems to meet national standards.
2. A target date should be set to require reinjection of produced waters into the oil formation whenever possible, phasing out allowances for existing facilities to continue to discharge produced waters into Cook Inlet.
3. A target date should be set so as to require the reinjection of muds and cuttings down the well hole or use onshore disposal, and for use non-toxic drilling muds wherever possible phasing out allowances for existing facilities to continue to discharge muds and cuttings into Cook Inlet.

Under section 305(b)(4) of the Magnuson-Stevens Act, EPA is required to respond to NMFS EFH recommendations in writing within 30 days. If EPA will not make a decision within 30 days of receiving NMFS EFH Conservation Recommendations, EPA should provide NMFS with a letter within 30 days to that effect, and indicate when a full response will be provided.

We look forward to working with you to address the issues discussed above to minimize the effects of this project on living marine resources, including EFH. Jeanne Hanson and Matt Eagleton are the contacts for this project and can be reached at 907-271-5006.

Response

Thank you for your comment. EPA appreciates comments from NMFS aimed at protecting essential fish habitat.

EPA acknowledges that there have been technical advancements since the development of the ELGs in 1996; however, technology for existing platforms has not changed significantly. For new facilities, EPA has proposed zero discharge of muds/cuttings and produced water for new development and production facilities. ELGS for the coastal subcategory does not require zero discharge from exploration facilities for any area of the U.S.

Although reinjection is frequently chosen by new operators, retrofitting existing facilities for reinjection is difficult. Proposed permit requirements include well testing that existing facilities may not pass. In addition, existing injection wells would not be able to accommodate the volume of produced water that is generated. While EPA supports reinjection of waste; we cannot require reinjection in the permit. EPA does not have the authority to prescribe the method for disposal of waste.

EPA Region 10 has reinitiated conversations with the Office of Science and Technology at EPA Headquarters in D.C. We requested that consideration be given during the upcoming planning cycle to review the ELGs. Specifically the coastal subcategory at 40 CFR Part 435, Subpart D, regarding the ELGs applicable to Cook Inlet.

Response to Public Comments Submitted By:

Author Name: John Mouw

Organization: N/A

Comment ID CI-170.001

Zero discharge of toxic exploratory and production waste should be required in the pending NPDES Permit AKG 31-5000.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 6

Comment ID CI-170.002

We are now aware of many reasons why these discharges should not be allowed, including:

- The sharp decline in the number of Cook Inlet beluga whales
- The financial and social importance of the Cook Inlet salmon fishery, which depends heavily on marketing a superior product from clean waters in its competition with farmed salmon

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response # 95

Response # 96

Comment ID CI-170.003

Record profits by oil companies diminish financial hardship as an acceptable reason

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-170.004

The fact that Cook Inlet is the only coastal waterway where such discharges are allowed

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-170.005

Technology, standard in other areas, is available to eliminate waste discharge into Cook Inlet

- Clean Water Act promotes the use of new technologies to reduce discharges; ignoring technologies and permitting increased discharges is in conflict with the Clean Water Act

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-170.006

Please, zero discharge for Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Michael Munger

Organization: Cook Inlet Regional Citizens Advisory Council

Comment ID CI-060.001

The Cook Inlet Regional Citizens Advisory Council (RCAC) is responding to your call for comments regarding the Proposed NPDES General Permit for Oil and Gas Exploration, Development, and Production Facilities Located in State and Federal Waters in Cook Inlet (AKG-31-5000). This permit is in regards to discharges associated with oil and gas exploration, development, and production activities in Cook Inlet's coastal, territorial, and offshore waters. This proposed rule would apply to existing as well as new source discharges.

The proposed geographic area, activities, and facilities covered in this draft permit is within our area of concern and, as such, this letter and attached comments address our concerns specific to the draft permit and its association documents (e.g. Fact Sheet, Mixing Zone Application, Ocean Discharge Criteria Evaluation, Environmental Assessment and Finding of No Significant Impact, Biological Evaluation, and Essential Fish Habitat Assessment).

The Cook Inlet Regional Citizens Advisory Council (RCAC) is a citizen oversight council for oil industry operations in the Cook Inlet region and was established according to Section 5002 of the Oil Pollution Act of 1990 (OPA 90). Our organization represents local governments and interest groups in Cook Inlet and nearby areas who have the potential to be impacted by crude oil industry operations in Cook Inlet. One of our many tasks under OPA 90 includes providing "advice and recommendations on policies, permits, and site-specific regulations relating to the operation and maintenance of terminal facilities and crude oil tankers which affects or may affect the environment in the vicinity of the terminal facilities." Thus, through this congressional mandate, we are providing you with these comments.

Response

Thank you for your comment.

Comment ID CI-060.002

On 19 May 2006, our Board of Directors met and passed a resolution regarding the proposed NPDES permits that states that:

“... the Cook Inlet RCAC does hereby oppose the issuance of an NPDES General Permit for Oil and Gas operations in Cook Inlet that would allow more pollution to be discharged than is currently permitted and the Cook Inlet RCAC supports the goal of zero discharge.”

Although stopping short of requesting “zero discharge” for all facilities in this permit cycle, the resolution language articulates Cook Inlet RCAC’s stance that the proposed permit limits and mixing zones should be reevaluated and recalculated to ensure that the total concentrations and pollutant loadings do not increase from the current permit and that every effort be made to move towards zero discharge in the future. Recent successful efforts by some Cook Inlet operators(1) to re-inject drill fluids and cuttings and produced water discharges have shown that re-injection is feasible. These same efforts should be applied to some portion of the discharges identified in the draft permit to ensure that the total discharged pollutant loads do not increase.

Footnotes

Since 2002, Forest Oil has been injecting produced water and drilling fluids/cuttings from its Osprey platform (not covered under this permit); In 2004, the Tyonek A platform was converted by ConocoPhillips for zero discharge of produced water; In 2005, Platform Anna was converted by re-injection by Chevron/Unocal.

Response

Please reference the following in the Response to Comment Document:

Response # 36

Response # 6

Comment ID CI-060.003

While we support the increased mixing and dilution that will be provided by the addition of a multi-port diffuser at the Trading Bay Production Facility, this facility will still account for over 95% of the produced discharges to Cook Inlet and the total loadings of pollutants should not increase.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-060.004

Our attached comments address our other major concerns, as well as details in the proposed permit and associated documents. In general, we do not believe that the mixing zone modeling has been shown to be conservative as was claimed in the Mixing Zone Application and Fact Sheet. Many of the produced water limits were based on only one number and some of the assumptions made during the CORMIX modeling do not match our knowledge of Cook Inlet's physical oceanographic environment. The CORMIX modeling effort should be reexamined for the effects of vertical structure and incorporate more realistic ambient conditions.

Response

Please reference the following in the Response to Comment Document:

Response # 39

Comment ID CI-060.005

We were surprised at the number of errors found in the draft permit and the lack of good data integration in some of the supporting documents, especially after waiting two years to review this draft. For example, the oceanography section in the Environmental Assessment is very weak and focuses on the lower inlet with little effort to incorporate information available for the upper inlet. In that same document, descriptions of the upper Inlet environment were based on only a few data sources, and missed an opportunity to compile and integrate numerous other data.

Response

EPA has tried to address any errors that have been identified either through internal EPA or public review since the release of the draft EA. Further, EPA has incorporated additional data from various studies conducted by CIRCAC on the deposition of contaminants and sediments in Cook Inlet. NEPA requires that federal agencies take a "hard look" at the environmental consequences of a proposed action. It does not require a treatise or a complete compilation of all available information related to a particular topic. EPA believes that the data presented in the EA provides a sufficient basis upon which to draw conclusions regarding reissuance of the General Permit.

Comment ID CI-060.006

Also, a significant amount of the background information provided by TetraTech in the supporting documents and reports was paraphrased or quoted directly from MMS's Environmental Impact Statement for the Cook Inlet Oil and Gas Lease Sales 191 and 199(2). This MMS document provides references to almost all of Cook Inlet RCAC funded studies(3) that were designed specifically to assess potential impacts of Cook Inlet oil industry discharges, yet the supporting documents made no references to these data. We have since provided electronic copies of our reports to your staff.

Footnotes

2 MMS (Minerals Management Service). 2003. Cook Inlet Planning Area. Oil and Gas Lease Sales 191 and 199. Final Environmental Impact Statement. OCS EIS/EA MMS 94-0066. U.S. Department of the Interior, Minerals Management Service, Alaska Outer Continental Shelf, Anchorage, AK.

3 MBC Applied Environmental Sciences. 1992. A comprehensive monitoring program for Cook Inlet, Alaska. Final Report submitted to Cook Inlet Regional Citizens advisory Council, 11355 Frontage Rd., Kenai, AK 99611.

Arthur D. Little, Inc. 1995a. Cook Inlet pilot monitoring study final report: phase I of an overall program entitled, "Design and Implementation of a Prototype Environmental Sampling Program for Cook Inlet, Alaska:.". Prepared for Cook Inlet Regional Citizens Advisory Council, Kenai, Alaska.

Arthur D. Little, Inc. 1995b. Cook Inlet pilot monitoring study final report: phase II of an overall program entitled, "Design and Implementation of a Prototype Environmental Sampling Program for Cook Inlet, Alaska:.". Prepared for Cook Inlet Regional Citizens Advisory Council, Kenai, Alaska.

Kinnetic Laboratories, Inc. 1996a. Cook Inlet Environmental Monitoring Program. Final monitoring report-1995. Prepared for the Cook Inlet Regional Citizens Advisory Council Environmental Monitoring Committee.

Kinnetic Laboratories, Inc. 1996b. Lake Clark Bivalve Analyses. Data Summary Report-1996. Prepared for Cook Inlet Regional Citizens Advisory Council Environmental Monitoring Committee.

Kinnetic Laboratories, Inc. 1997. Cook Inlet Shelikof Strait Project. Final report-1996. Prepared for the Cook Inlet Regional Citizens Advisory Council Environmental Monitoring Committee.

Kinnetic Laboratories, Inc. 1998. 1997 Cook Inlet Sediment Toxicity and Hydrocarbon Study. Prepared for Cook Inlet Regional Citizens Advisory Council.

Lees, D.C., J. R. Payne, and W. B. Driskell. 2000. Technical Evaluation of the Environmental Monitoring Program for Cook Inlet Regional Citizens Advisory Council. Final report submitted to CIRCAC, Kenai, AK.

Lees, D.C., W. B. Driskell., and J. R. Payne. 2004. Intertidal Reconnaissance Surveys in Cook Inlet. Draft Report to Cook Inlet Regional Citizens Advisory Council, Kenai, AK.

Response

The Final EA includes additional discussion of the sediment studies funded by CIRCAC.

Comment ID CI-060.007

The Fact Sheet noted that many tribal members requested that the public be continuously informed regarding platform reporting and compliance and we agree that EPA needs to make a much greater effort to compile and provide discharge data throughout the life of the permit. We request that EPA require industry to submit these data into a publicly accessible database or in an easily accessible electronic format.

Response

Please reference the following in the Response to Comment Document:

Response # 41

Comment ID CI-060.008

We support EPA's inclusion of environmental monitoring associated with new exploration and existing large dischargers in Cook Inlet. We have provided general comments on recommendations for such monitoring efforts and have been in discussions with the state, EPA, and industry to determine whether such an environmental monitoring program can be coordinated with our mandated monitoring efforts. This is a new component of the permit with a final sampling plan to be submitted for approval by EPA at a later date. We will continue to work with EPA, ADEC, and industry to ensure that thoughtful, realistic, and useful final sampling plans are prepared.

Response

Thank you for your comment.

Comment ID CI-060.009

Finally, thank you for being responsive to requests for an extension of the comment period associated with this draft permit. The extra time was critical to our review of the draft permit and numerous associated documents prepared by your staff and contractors. We also appreciate the hard work by your staff in coordinating the public hearings and reviews of this draft permit. If you have any questions regarding our comments, please contact me or our Director of Science and Research, Susan Saupe, at the number below or at our respective e-mails, munger@circac.org or saupe@circac.org.

Response

Thank you for your comment.

Comment ID CI-060.010

General Permit and Fact Sheet Comments

1) Figure 1: Area of Coverage – The description is confusing for the Upper Northern Cook Inlet area. The draft permit authorizes “discharges from exploratory facilities and existing development and production facilities.” The way it is currently written implies that the permit doesn't allow new source development discharges in Upper Cook Inlet, which doesn't make sense if exploratory facilities are allowed. The difference between upper and lower Cook Inlet is “Coastal” versus “Offshore Territorial Seas and Federal Waters”, however the description for the allowable discharges within each of these areas should be similar with the exception that the Upper Cook Inlet has “existing facilities”.

Response

Please reference the following in the Response to Comment Document:

Response # 11

Comment ID CI-060.011

The Draft Permit proposes the prohibition for discharges within 1,000 meters of coastal marsh, river delta, etc. be expanded to 4,000 meters to afford better protection of these sensitive areas. CIRCAC supports the monitoring requirements for all new facilities and believes that environmental impacts would be reduced by discharging into deeper waters (i.e. further offshore) by reducing the chance that fine particulates can accumulate in intertidal depositional areas.

Response

Thank you for your comment.

Comment ID CI-060.012

The study plans submitted for these discharges of drilling muds and/or cuttings need to be carefully designed to provide the most valuable data. For example, study designs will most likely differ in different parts of the inlet to account for the varying current regimes which would affect whether discharged particulates could accumulate in the benthic environment or be mixed with the high suspended sediment loads in upper Cook Inlet, diluted, and swept downstream. Few assessments have been made (4) on the potential impacts of discharged drill muds and cuttings to benthic community structure in the immediate area of the discharges while the discharges are taking place. These data will increase our knowledge such that assessments can be made for future issues based on Cook Inlet data.

Footnotes

4 Dames and Moore. 1978. Drilling Fluid Dispersion and Biological Effects Study for the Lower Cook Inlet C.O.S.T. Well. Anchorage, AK; Atlantic Richfield Company, 109 pp.

Response

Please reference the following in the Response to Comment Document:

Response # 14

Comment ID CI-060.013

During the recent South-central Alaska Coastal Assessment for the EPA Environmental Monitoring and Assessment Program(5), benthic infaunal communities in middle and upper Cook Inlet tended to be less rich and diverse than in other areas. This was most likely associated with the high suspended sediments and the fact that surface sediments are continually reworked and scoured in the upper Inlet. However, the lack of ambient data on community assemblages in these environments makes it difficult to evaluate the benthic condition in these areas within the context of the larger Cook Inlet or Gulf of Alaska context. By requiring that the analyses must include potential impacts to the benthic community, EPA can help fill these data gaps while providing information to evaluate potential impacts from the discharges.

Footnotes

5 Saupe, S.M., J. Gendron, and D. Dasher. In Press. National Coastal Assessment Program: The Condition of Southcentral Alaska's Bays and Estuaries Technical Report and Statistical Summary. Final report to Alaska Department of Environmental Conservation, Anchorage, AK.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-060.014

Drilling muds, fluids, and cuttings discharges – New Sources: The description of allowable drilling muds, fluids, and cuttings discharges is inconsistent between the Fact Sheet and a number of places in the Draft Permit. New sources are defined to include both development and production operations which exclude exploratory operations. The Draft Permit (page 7 of 139) stipulates that “New Sources.... are NOT authorized to discharge produced water, drilling fluids, or drilling cuttings”. However, the Fact Sheet (page 9 of 73) states that: “Discharges associated with development operations include all those listed above for exploratory operations. In addition, generally, facilities engaged in development operations discharge produced water and well treatment fluids.” This wording needs to be changed since these discharges are specifically NOT authorized for new source development activities which would include pretty much all development activities in Cook Inlet. Another section this applies to is Section 5. Environmental Monitoring, a. NEW FACILITIES in the Draft Permit. This section specifies a monitoring program for New Facilities that are discharging drilling muds and/or cuttings. This section should read “New Exploratory Facilities”, since these types of discharges are not allowed for new development and new production facilities.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 42

Comment ID CI-060.015

CIRCAC supports the decision in the Draft Permit to not allow the discharge of produced water, drilling fluids, or drilling cuttings from new sources that are defined as new development or new production facilities. However, no reasoning is given for not extending this discharge restriction for drilling fluids and cuttings to also include new exploratory.

Response

Please reference the following in the Response to Comment Document:

Response # 43

Comment ID CI-060.016

The Environmental Assessment (EA) states that an “evaluation of requiring reinjection of drilling fluids and cuttings resulting in zero discharge of these waste streams was conducted by EPA and was determined to be technically infeasible for many of the formations underlying and adjacent to Cook Inlet.” If reinjection is technically infeasible for exploration based on geological formations, why is reinjection feasible for new development and production facilities? Further explanation needs to be provided in the Fact Sheet for this decision to not also include new exploratory facilities as new sources. If there is technically no reason for a distinction between exploratory and development or production facilities, then this discharge restriction should also be extended to those exploratory facilities.

Response

Please reference the following in the Response to Comment Document:

Response # 43

Response # 93

Comment ID CI-060.017

The coastal subcategory exemption from zero-discharge for water-based drilling fluids and cuttings in coastal Cook Inlet was based on several factors, including the small volumes of discharges expected, weather and logistics problems, economic considerations, and other factors. The exemption from zero-discharge for produced water in coastal Cook Inlet was based on the technical infeasibility of reinjecting produced waters (due to the inappropriate geological formations, scaling and hydrogen sulfide formation in piping, reservoir plugging and souring) and economic considerations (lack of cost-effective alternative to reach zero-discharge)(6)

Since the ruling that provided for the Cook Inlet exemption, there has been additional information available that led the EPA to not provide for the standard Cook Inlet exemption for the discharge for synthetic-based drilling fluids to coastal waters(7). The EPA identified that many Cook Inlet operators in Coastal waters are successfully using cutting reinjections for oil-based and synthetic-based drilling fluids. In addition, the exploratory Osprey platform in Cook Inlet is reinjecting drilling fluids and will reinject produced water during production. The technology is clearly available for zero-discharge in many instances and all future post-lease activities should employ re-injection well technology, either on-site or on-shore. A more recent example was presented at the recent Cook Inlet RCAC Board of Director's Meeting on 19 May 2006 when a representative from Escopeta Oil announced that they will injects drilling wastes associated with their exploration, development, and production activities.

Footnotes

6 Prentki, R. T. 1995. The "Alaska Exemption for Offshore Oil and Gas Industry Discharges under National Pollutant Discharge Elimination System (NPDES). Alaska OCS Region Briefing Paper.
Federal Register. 1996. Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category. 61 Federal Register 242, 66085-66130.
Federal Register. 1999. Final NPDES General Permit for Oil and Gas Exploration. Development and Production Facilities in Cook Inlet, [AL] (AKG285000). 64 Federal Register 46, 11885-11098.

7 Federal Register. 2001. Effluent Limitations Guidelines and New Source Performance Standards for the Oil and Gas Extraction Point Source Category; OMB Approval under the Paperwork Reduction Act: Technical Amendment Final Rule. 66 Federal Register 14, 6850-6919.

Response

Please reference the following in the Response to Comment Document:

Response # 142

Response # 6

Comment ID CI-060.018

CIRCAC supports the decision in the Draft Permit to require a consistent list of analytes to be monitored between facilities (e.g., produced water monitoring of: TAH, TAqH, ammonia, copper, mercury, manganese, nickel, zinc, and WET), which will make permit conditions and compliance much easier to track for both the industry and regulatory agencies. However, as described below, we do not support the removal of any metal that is included in the existing permit.

Response

Please reference the following in the Response to Comment Document:

Response # 44

Response # 45

Comment ID CI-060.019

Although not consistent between facilities, the old permit also required monitoring of lead, silver, and arsenic in produced water effluent at some facilities. The Fact Sheet should provide a basis for removing these parameters by providing a summary of data that shows levels with respect to Alaska Water Quality Standards (AWQS), permit compliance, or some other basis for no longer requiring this monitoring. The Fact Sheet states that these parameters were removed based on recent discharge monitoring reports that indicated there is no reasonable potential for exceedance of water quality criteria. However, summary data presented in the Mixing Zone Application for Cook Inlet Oil and Gas Operators indicated that the hazard quotient, defined as the dilution necessary to meet AWQS, ranged from 10.49 to 38.23 for arsenic, from 1.5 to 61.05 for lead, and from 4.53 to 64.5 for silver for those facilities where data was reported. In the case of the East Forelands Treatment Facility, silver was found to have the highest dilution requirement for any metal based on AWQS aquatic life acute criteria, and lead was found to have a higher dilution requirement than any of the other metals for which monitoring is currently required in the draft permit.

Based on these numbers, it is clear that these facilities do not meet AWQS at end of pipe for these three metals and therefore they should be required to monitor these parameters as a permit requirement even if they are not given effluent limitations. The incremental cost required to add additional metals parameters for a sample would be fairly minor given the fact that metals analyses are typically performed by ICP or ICPMS techniques.

Response

Please reference the following in the Response to Comment Document:

Response # 45

Comment ID CI-060.020

The analysis of selenium in produced water should also be monitored as a permit monitoring requirement. Summary data presented in the Mixing Zone Application for Cook Inlet Oil and Gas Operators indicated that the dilution necessary to meet AWQS for selenium ranged from 14.01 to 55.11 for six of the eight facilities that reported on this parameter. In the case of the East Forelands Treatment Facility, selenium was found to have the highest dilution requirement for any metal based on aquatic life chronic criteria in the AWQS.

Response

Please reference the following in the Response to Comment Document:

Response # 46

Comment ID CI-060.021

Fact Sheet, Table 2, Tyonek A discharge rate. The maximum projected rate and the current discharge rate are the same. Is this correct?

Response

Please reference the following in the Response to Comment Document:

Response # 47

Comment ID CI-060.022

Whole Effluent Toxicity (WET) – Many of the typical testing and reporting requirements for the WET testing are for the most part absent and are not consistent with requirements that are typically included in NPDES permits for other dischargers in Region 10. Request the following clarifications and requirements be added to the permit:

- ◆ Complete results of the WET testing shall be submitted with the DMR for the month following the completion of the tests.
- ◆ Reports of the toxicity testing results shall include all relevant information outlined in Section 10, Report Preparation, in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms, the Third Edition (EPA-821-R-02-014). The permittee shall include: (1) the results of the test(s), (2) the dates of sample collections and initiation of each toxicity test, (3) discharge rate, (4) results of any chemical specific testing performed in conjunction with the toxicity test(s), and (5) all raw data and statistical analyses from the tests, including reference toxicant data.
- ◆ All quality assurance and statistical analyses shall be in accordance with Quality Assurance Guidelines for Biological Testing, EPA/600/4-78-043, Quality Assurance Bibliography, EPA/600/4-89-001, and other EPA Region 10 approved protocols.

Response

Please reference the following in the Response to Comment Document:

Response # 48

Comment ID CI-060.023

WET testing requirement inconsistency needs clarification. In Section II.G.6.a.2 - Increased Monitoring, the permit specifies increased WET monitoring to increase to once per month for a period of three months should the permit limit be exceeded. However, Sections III.A.7 and III.A.8 already specify a rigorous accelerated testing program should a WET test exceed the permit limits and that if the accelerated testing indicates no toxicity, then the permittee may return to normal testing frequency. Suggest deleting the increased monitoring requirement for WET testing in Section II.G.6.a.2 since it is already covered in Sections III.7 and III.8. Also, change the wording normal in Section III.8 to quarterly which would ensure that WET testing reverted back to the original testing requirement during the first year of the permit for an additional one year period following a permit exceedence.

Response

Please reference the following in the Response to Comment Document:

Response # 49

Comment ID CI-060.024

Section III.D. – Polynuclear Aromatic Hydrocarbons (PAH). It should be made clear that this test method required for PAH only applies to the testing of drilling fluids and drill cuttings (Discharge 001). The State of Alaska test method for the PAH portion of TAqH as cited in the Alaska Standards, 18 AAC 70.020(b) is by EPA Method 610, EPA Method 625, or other ADEC-approved methodology.

Response

Please reference the following in the Response to Comment Document:

Response # 50

Comment ID CI-060.025

Tables 7 Potential Errors. There appear to be a number of errors in Tables 7B1-7B9 in the Draft Permit and in the corresponding Tables in Appendix B of the Fact Sheet. Potential errors that were found are the following:

- ◆ Table 7-B2: The East Forelands Facility. The TAqH limits are less than the TAH limits which does not make sense, since TAH is included in the determination of TAqH ($TAqH = TAH + PAHs$). Also, the limits for TAqH and ammonia are identical which indicates a potential error in the table. Based on data presented in the mixing zone application, the daily maximum effluent limits for TAqH and ammonia should be 26.06 mg/L and 23.63 mg/L, respectively, rather than 24.2 mg/L.
- ◆ Table 7-B4: Platform Bruce. The daily maximum limit for total zinc appears to be an order of magnitude too high based on the monthly average. Should the daily maximum be 44.6 mg/L rather than 446 mg/L?
- ◆ Table 7-B5: Platform Baker. The monthly and daily limits for total copper appear to have the wrong units. Should these limits be $\mu\text{g/L}$ rather than mg/L?
- ◆ Table 7-B6: Platform Dillon. The monthly and daily limits for total copper appear to have the wrong units. Should these limits be $\mu\text{g/L}$ rather than mg/L?
- ◆ Table 7-B6: Platform Dillon. The daily maximum for total nickel appears to be an order of magnitude too high. Should this limit be 210 $\mu\text{g/L}$ rather than 2.1 mg/L?
- ◆ Table 7-B9: Granite Point Platform. The monthly and daily limits for total nickel appear to have the wrong units. Should these limits be $\mu\text{g/L}$ rather than mg/L?

Response

Please reference the following in the Response to Comment Document:

Response # 51

Comment ID CI-060.026

Section VII – Environmental Study Requirements. CIRCAC supports the requirement for an ambient monitoring program for facilities that discharge over 100,000 gallons per day; however, the purpose and scope of these environmental studies needs to be better defined in the Draft Permit. There appear to be two separate components to this monitoring program; water quality and sediment, which we have commented on separately.

Response

Please reference the following in the Response to Comment Document:

Response # 52

Comment ID CI-060.027

Water Quality Component

◆ First, it is important that any environmental study related to discharges in Cook Inlet includes periodic inventory and reporting of a full suite of chemical analytes in the produced water from the large dischargers – including analytes that may not be listed in the draft permit. These periodic analyses should include a full suite of PAHs, aliphatic hydrocarbons, a full suite of metals, other organic compounds (e.g. selected alkyl-phenols and polychlorinated hydrocarbons).

◆ With respect to the water quality component, the plan calls for sampling in the water column “at 50 meter intervals over a grid extending a distance of 2000 meters both north and south of the discharge point and 100 meters in width”. The way we interpret this requirement is that there will be three station transects with 80 stations per transect for a total of 240 stations. Assuming the water samples are taken at the mid-depth, and bottom, there will be a total of 480 water samples to be analyzed for TAH, TAqH, copper, manganese, lead, nickel, and zinc. Assuming potential costs of \$500 to \$1,000/sample, this would equate to a cost of \$240,000 to \$480,000 for laboratory analyses of the water samples alone, not including field sampling, data and statistical analysis, database, reporting, or the sediment quality component. As currently designed, this study will be extremely costly with no clear assurance that any useful information will be obtained.

◆ If the purpose of the water quality component of this study is to ascertain the dispersion and dilution of the effluent plume in the receiving water, then a properly designed effluent dilution study utilizing dye or other tracer coupled with a much more limited water quality study would better serve this purpose. The information from a dilution study would allow an assessment of general dilution rates and would also enable a direct determination of receiving water chemistry from measurements obtained in the effluent. As currently designed there is no assurance that the receiving water samples obtained would even be within effluent plume.

◆ Based on extensive experience in obtaining water samples in Cook Inlet, obtaining samples from fixed stations by either anchoring or vessel station keeping is nearly impossible given the high currents and resulting large scope in sampling lines for either a discrete water sampler (e.g., Niskin bottle or equivalent) or pumped water sample. A better method that has been utilized by the Municipality of Anchorage in the John M. Asplund NPDES receiving water sampling program at Point Woronzof, and approved by ADEC and EPA, is to obtain water samples while drifting along the effluent plume’s path. A current drogue is first deployed at the discharge point which drifts with the effluent and receiving water at the desired depth in the water column. Water samples are then obtained at various distances along the drogue’s path and the location of each determined by a global positioning system (GPS) are recorded. After having drifted for a predetermined distance from the effluent discharge point, the drogue is then picked up and redeployed at the starting location and the process is repeated for the desired number of times. This sampling method assures that water samples are obtained from within the dispersed effluent plume, allows direct measurement of currents, allows a comparison for different points during the tidal cycle (ebb, flood, slack, etc.), and enables statistical analyses to be performed between station groupings as a function of distance from the effluent diffuser for the determination of statistically significant differences and impacts. This same type of sampling can be utilized in an effluent dilution study and was successfully used by MOA during their permit reapplication effort for the John M. Asplund WWTF in 1988.

- ◆ The draft study requirement includes sampling for lead which is NOT one of the parameters that is currently required in the Draft Permit for any of the produced water discharges (although see # 6, above). Also, the draft study requirements do not include mercury which IS a produced water effluent monitoring requirement. CIRCAC suggests including mercury as a receiving water monitoring requirement to be consistent with the effluent monitoring requirements for produced water. In the event that other metals are added to the produced water effluent monitoring requirements, then those parameters should also be included in this ambient water quality study.
- ◆ The water quality sampling plan should include the analysis of both total recoverable and dissolved metals. Due to the highly turbid water conditions in Cook Inlet, it has been shown by past studies that total recoverable metals are directly correlated with the total suspended sediment (TSS) concentrations with TSS accounting for approximately 80-90% of the background metal concentrations. Therefore, the analysis of dissolved metals will be necessary to determine any effluent impacts. In addition, the AWQS for receiving water are now based on dissolved metals criteria. The analysis of TSS should also be included in the environmental monitoring program which will allow better interpretation of the metals monitoring data.
- ◆ The water quality program should also include in situ hydrographic measurements of the water column to define the vertical structure and confirm assumptions made during the effluent dilution CORMIX modeling efforts. Measurements typically would include: conductivity (salinity), temperature, and pressure (depth) with optional measurements of pH, dissolved oxygen, and turbidity. In addition, a hull mounted or towed Acoustic Doppler Current Profiler (ADCP) will allow better interpretation of existing current speeds and directions, especially relative to the dilution axis, during the discharge plume study. This will greatly improve our ability to interpret the results of the plume study.
- ◆ Based on our comments for the receiving water quality monitoring presented above, we propose that the monitoring program should include an effluent dilution study that would obtain sufficient receiving water data and information that would enable confirmation of CORMIX modeling results. The study would also substantially reduce the number of water quality samples that would be collected in conjunction with the dilution study, add dissolved metals and TSS to the suite of analyses, analyze for mercury rather than lead (unless lead was included in the effluent monitoring, as noted above), and include hydrographic profiles of the water column. Samples should also be obtained of the effluent at the time of the receiving water monitoring to allow a direct comparison of pollutants being discharged to those measured in the receiving water.

Response

Please reference the following in the Response to Comment Document:

Response # 52

Comment ID CI-060.028

Sediment Quality Component

◆ Sediment quality study requirements. CIRCAC has similar concerns with respect to the study requirements for the sediment quality portion of the environmental monitoring as we had for the water quality portion. Again, the number of stations and samples currently specified is 240, which is excessive when compared to a typical NPDES discharge study that would include near-field stations at the outfall, within the mixing zone or zone of initial dilution (ZID) stations, on the mixing zone or ZID boundary stations, and far-field stations outside of the mixing zone and a control location. A typical program of this type might include 30-60 stations/samples.

◆ Rather than collecting more samples, it would be more beneficial to collect better information at the locations that are sampled. Additional measurements that should be taken which would be very valuable for data analysis include: sediment grain size, total organic carbon, and aluminum. Also the TAqH should include a broader suit of PAHs that would include the alkylated homologues in addition to the parent compounds. This extended suite of PAHs would allow a forensic determination of the PAHs that resulted from the effluent discharge versus those that exist in the Cook Inlet marine environment from natural and other anthropogenic sources along with the degree of biodegradation and weathering. Other optional measurements that should be strongly considered for the program include sediment toxicity, total petroleum hydrocarbons (TPH), aliphatic hydrocarbons (C10-C34), the unresolved complex mixture (UCM), and select hydrocarbon biomarkers.

◆ Total aromatic hydrocarbons (TAH) should be eliminated from the sediment analyses since they don't typically accumulate in marine sediments due to their volatile nature and the monies saved could be better spent on other pollutants that would more likely accumulate in marine sediments.

◆ Due to the high currents in Cook Inlet, sediment sampling usually has to be conducted near slack tide in order to successfully obtain a sample with a van Veen grab, box core, or other marine sediment sampling device. The tidal window for sediment sampling is typically only about 2 hours in length. Again, due to the limited time, it is best not to anchor, but to have the captain of the vessel station-keep over the desired sampling location while the sampling device is lowered to the bottom. Again, due to the limited time available for sampling during each day, it would be better to sample fewer locations but with broader suite of analyses.

◆ A further consideration for the sediment sampling program is the bottom type. Based on experience of sampling throughout Cook Inlet, many locations are scoured with each tidal cycle and no net accumulation of sediments occurs. The sediment sampling program may not even be possible, as the bottom may consist entirely of cobble, large gravel, or very coarse sediments. Typically the accumulation of pollutants in the marine environment is associated with fine-grained sediments. Thus, if the sediment program is in a net erosional environment, it is expected that sampling will be difficult or impossible and pollutants will not be accumulating in these areas. Results of recent Minerals Management Service (MMS) monitoring programs indicate that with the exception of protected bays, much of Cook Inlet is erosional with sediment deposition occurring in the Lower Shelikof Strait region. If sediment sampling is not possible, then some type of sampling such as a pipe dredge should be undertaken to document the bottom type.

◆ At the present time, there are only two facilities (Trading Bay and East Forelands) that exceed the 100,000 gpd requirement for a study, and both are onshore facilities. Since subtidal sediment sampling may not be possible due to sediment type, an intertidal sediment sampling program should be considered as accumulations of pollutants may be occurring in these areas. For example, the MOA discovered at Point Woronzof that the subtidal area consisted entirely of cobble and could not be sampled for sediments; however, some of the adjacent intertidal area consisted of fine-grained silt and mud and could be easily sampled. Also, the intertidal areas are not continuously scoured by currents and have the potential to be long-term repositories of discharged pollutants.

Response

Please reference the following in the Response to Comment Document:

Response # 52

Comment ID CI-060.029

The Draft NPDES Permit, Fact Sheet, and AWQS all specify a chronic limit of 35 µg/L for ammonia in the receiving waters. However, the mixing zone application modeling effort used a chronic limit of 2,200 µg/L for ammonia in the receiving waters which resulted in low dilutions and small mixing zones. This incorrect information in the mixing zone application was then carried over into both the Draft Permit and Fact Sheet when the dilution factor was calculated as presented in the Fact Sheet (Table 4) and when the mixing zone size was calculated for ammonia. This apparent error resulted in much lower dilutions than actually required and much smaller mixing zones than actually required in order to achieve AWQS limits at the mixing zone boundary. The reasonable maximum effluent concentration that was presented in the mixing application and subsequently taken as the maximum daily effluent concentration limit in the Draft Permit was used as the starting point in determining the magnitude of this error. This error and resulting affect for chronic ammonia is shown in the following table. This apparent error resulted in underestimating the required effluent dilution for ammonia by a factor of 62.86 (2200/35) as seen in Table 1. To determine the approximate magnitude of the error on the sizes of mixing zone, estimates were made from both ADEC's CORMIX modeling efforts and from the mixing zone application based on model runs, graphics, and mixing zone sizes for other parameters that had similar dilution requirements.

Due to the very high dilutions and large mixing zones that will be now required for ammonia, the CORMIX modeling effort for this parameter should be reexamined and accurate mixing zone sizes for ammonia determined for each produced water discharge. In many cases, it appears that ammonia will now require the largest mixing zone for individual produced water discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 53

Comment ID CI-060.030

Although the ‘reasonable maximum concentration’ approach to setting effluent limits is conservative in that it sets the limits high enough that statistically there is little likelihood that they will ever be exceeded by individual discharges, this method in effect rewards discharges that have historically either exceeded their permit limits or have done a poor job of consistently removing pollutants from their influent water prior to discharge. Similarly, this method penalizes discharges that have done a great job of removing pollutants by setting their effluent limits at much lower levels than would be the case if the facility had been operating at low efficiency levels.

For example, the Granite Point Tank Farm (GPTF) currently has a WET daily maximum limit of 133 TUc and a monthly average limit of 91 TUc in the existing NPDES permit for their produced water discharge. In their October 2005 discharge monitoring report (DMR), GPTF reported preliminary results that their WET testing was not within permit limits. As a result of this permit exceedance, accelerated testing of four bi-weekly WET tests was initiated. The November 2005 DMR reports that the first of these four tests also was not within permit limits. The December 2005 DMR reports that the fourth test of the four test series also exceeded permit limitations. The January 2006 DMR reported that an additional WET test was performed and that preliminary results indicated the test was within permit limits and that a toxicity identification evaluation (TIE) had been initiated in order to determine the source of the toxicity.

Rather than waiting for the results of the TIE to become available, the Draft NPDES Permit proposes to increase the produced water WET limit for GPTF by a factor of 12 to a daily maximum limit of 1,638 TUc and a monthly average limit of 1,092 TUc. By raising the WET limit, GPTF’s problem of meeting effluent limitations for WET testing essentially disappears. Since GPTF was conducting a TIE, the results of this should be implemented by the facility and those facts should be incorporated into the Draft Permit when setting effluent limits. This is just one example for one discharge for one parameter where permit limit conditions have been proposed to be relaxed for a discharge that has a history of noncompliance. As can be seen in the following table, effluent WET limits with the exception of Tyonek A have been relaxed for all produced water discharges covered by this permit, in some cases, substantially.

Response

Please reference the following in the Response to Comment Document:

Response # 54

Comment ID CI-060.031

Appendix 1 summarizes total potential contaminant loadings from the original permit (at the time of issuance) and the maximum possible loadings in the new DRAFT permit. These data show that based on changes to discharge limits and volumes, the new DRAFT permit allows significantly higher contaminant loadings to Cook Inlet than did the previous (current) permit. Cook Inlet RCAC is opposed to a new permit that will allow increases to the total potential pollutant loads to Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-060.032

Tables 3 through 6 provide a similar comparison for produced water discharges between the old permit and new Draft Permit for TAqH, TAH, copper, and mercury for the nine facilities that are currently covered by the new permit. No comparison can be made for manganese, nickel, zinc, and ammonia as there weren't any monitoring requirements for those parameters under the old permit. For TAqH, with the exception of Platform Anna where limits increased approximately 45% between the old and new permit, the other facilities have either decreased or they did not have an effluent limitation in the prior permit (Table 3). Similar results were seen for TAH, where with the exception of Platform Anna and the GPTF where limits increased, the other facilities have either decreased or they did not have an effluent limitation in the prior permit (Table 4). For copper, Platform Anna's effluent limitations for copper increased by an order of magnitude (~1000%), East Foreland Facility increased by 36-39%, and Trading Bay Production Facility by over 300%. The effluent limits for the other facilities either decreased or they did not have an effluent limitation in the prior permit (Table 5). For mercury, both the East Foreland Facility and GPTF effluent limitations increased by approximately 20-25%, whereas Platform Anna decreased by 60% and Tyonek A decreased by over 99% so that the produced water effluent will be meeting the AWQS at end of pipe.

Unfortunately, many of the produced water limits that were set in the Draft Permit are based on a single sample analysis. Of the eight facilities where produced water effluent chemistry data are available, 25 of 55 (45%) of the effluent limits for metals, ammonia, and hydrocarbons that were set in the Draft Permit were based on a single effluent sample as presented in the mixing application. With only a single sample, no statistical analysis of variability is possible, and use of the 'maximum reasonable concentration' approach resulted in the effluent limit being set at 13.2 times the sample analysis result. For example, if the single effluent sample was found to have a concentration of 10 mg/L, then by the maximum reasonable concentration approach, the effluent limit would be set at 132 mg/L, and the dilution factor necessary to meet AWQS and mixing zone modeling would be based on that number.

Although the maximum reasonable concentration approach might be considered conservative, it ensures that the mixing zone sizes are very large. Alaska Administrative Code (18 AAC 70.240) requires that when mixing zones are authorized, "the mixing zone will be as small as practicable". The application of the maximum reasonable approach to a single sample could result in a mixing zone size that was much larger than necessary. Additional analyses should have been conducted and utilized for those discharges where insufficient data existed to ensure that the mixing zone size was as small as practicable.

Response

Please reference the following in the Response to Comment Document:

Response # 55

Comment ID CI-060.033

In specifying effluent limits for produced water, EPA/ADEC applied the maximum reasonable concentration to the monthly average effluent concentration limit. CIRCAC feels that it would have been more appropriate to apply the maximum reasonable concentration in setting the daily maximum effluent limit, since the method was designed to predict the maximum possible sample concentration that might be seen in the effluent based on the statistic distribution of past monitoring samples. This would in affect lower the limits for the maximum daily to that predicted as the maximum reasonable concentration and the monthly limits would also be lowered. By applying this method on a sample basis as it was intended, the mixing zone sizes could also be reduced to accommodate the lower effluent limits.

Response

Please reference the following in the Response to Comment Document:

Response # 57

Comment ID CI-060.034

As was shown in the tables for WET, TAqH, TAH, copper, and mercury, many of the produced water effluent limitations have substantially increased between the old permit and the new Draft Permit. This fact coupled with the fact that produced water discharge rates have been increasing over time could result in a substantial increase in total pollutant loading to Cook Inlet. As seen in Table 7, produced water discharge rates have increased by 80% between the previous and current discharge conditions and by 203% between the previous and maximum predicted discharge rates. The increase between the current and maximum predicted is 69%. CIRCAC realizes that as oil fields mature, the ratio of produced water to produced oil will naturally increase; however, this fact should be taken into account in drafting a discharge permit. No limits have been set in the draft permit with respect to discharge rates, and since many pollutant limits have been relaxed from those in the prior permit, it can be expected that total pollutant loading to Cook Inlet could substantially increase from levels previously seen.

Response

Please reference the following in the Response to Comment Document:

Response # 58

Comment ID CI-060.035

Given the fact that pollutant loading levels from oil and gas operations in Cook Inlet are expected to potentially increase substantially over the coming years, a thorough review of past monitoring data and compliance history should have been performed as part of the permitting process. Other than the data presented in the mixing zone application, no discharge monitoring data are presented in the Fact Sheet, EA, or Ocean Discharge Criteria Evaluation. The limited monitoring data that are presented in the EA is from Cook Inlet Discharge Monitoring Study that gives a source as MMS (2002) with no accompanying reference. Other data in the EA has been pulled from MMS (2003) which is the Final EIS for the Cook Inlet Planning Area, Oil and Gas Leases 191 and 192. The oil and gas industry has collected a large amount of pollutant information for their effluent discharges into Cook Inlet which has been reported in monthly DMRs as part of their NPDES permits. These data and information should have been thoroughly reviewed, synthesized, and summarized in at least one of the documents that were prepared for this Draft Permit. The data should have been clearly laid out and summarized and past compliance history compared with new effluent limits that are proposed in the Draft Permit.

Response

Please reference the following in the Response to Comment Document:

Response # 38

Comment ID CI-060.036

The Fact Sheet states that “The main reasons for these larger mixing zones are that a more conservative model was used in the mixing zone applications for the proposed permit (CORMIX versus Plumes) and that mixing zones were established for reasonable worst-case conditions.” (Page 37 of 73). To test the first part of this statement, the model Visual Plumes was run for three of the produced water discharges using the same effluent, outfall characteristics, and background ambient receiving water conditions. Results of this modeling effort are presented in Table 8 which shows the required dilution necessary in order to meet AWQS based on the maximum expected reasonable effluent concentration and the predicted mixing zones using CORMIX (Fact Sheet and Draft Permit) and the Visual Plumes model. Mixing zone distances were based on worst-case effluent plume centerline concentrations and not on average dilution requirements.

Fairly good agreement was found between the CORMIX and Visual Plumes models in the near-field initial mixing region that is dominated by momentum and buoyancy flux mixing processes. For Platform Anna, the Plumes model was found to predict slightly larger and more conservative mixing zones while for Platform Dillon the Plumes model predicted larger mixing zones closer to the outfall and a smaller mixing zone for TAqH/TAH that had the largest dilution requirement.

The near-field mixing zone region (~ 700 m) for the East Forelands was also found to be very similar between the two models; however, the mixing zones for TAqH/TAH and WET located in the far-field region were found to be vastly different. The far-field region is defined as the region outside of the jet mixing and buoyant spreading regions of the plume and is dominated by turbulent processes in the ambient receiving water environment which is the main mixing mechanism at large distances from the outfall. A critical input factor in the far-field region is the diffusion coefficient which can range from 0.0001 to 0.0005 m^(2/3)/sec, with higher coefficients found in coastal or other regions with high energy and turbulence, and lower coefficients found in areas with low turbulence (EPA, 1994 and 2001)(8). These models are highly sensitive to this parameter and predict vastly different dilutions depending on what coefficient value is selected. For the Plumes Model comparison case of the East Forelands, the diffusion coefficient was taken to be 0.0005 m^(2/3)/sec and the “4/3 law” of diffusion was utilized where the diffusivity is governed by the plume size which results in accelerating plume growth. Even when this high turbulence assumption was utilized for Cook Inlet in the Visual Plumes simulation, the predicted dilutions were far less and mixing zones far larger than those derived from the CORMIX model as presented in the Fact Sheet. The reason for this large difference is not readily apparent since the assumptions used in the CORMIX model for the far-field region were not presented in either the Mixing Zone Application or the Fact Sheet. However, given the sensitivity of these models to the selected diffusion coefficient, the accuracy of any dilution predictions in the far-field for these passive diffusion processes are suspect without some empirical data for Cook Inlet on which to base one’s assumptions.

Footnotes

8 EPA. 1994. Dilution Models for Effluent Discharges, Third Edition. Office of Research and Development, U.S. Environmental Protection Agency. EPA/600/R-94/086.

EPA. 2001. Dilution Models for Effluent Discharges, Fourth Edition (Visual Plumes), Draft. Environmental Research Division, U.S. Environmental Protection Agency.

Response

Please reference the following in the Response to Comment Document:

Response # 39

Response # 59

Comment ID CI-060.037

Another assumption that was used in the CORMIX modeling effort that can have profound affect on dilution and mixing zone size calculations is that the vertical structure of the receiving waters is isohaline and isothermal (i.e., no salinity or temperature differences are shown between the top and bottom of the water column). While numerous studies in Cook Inlet have shown that the water column is generally well mixed, there are still noticeable differences between the top and bottom. Recent hydrographic work by Okkonen and Howell (2003)(9) that was conducted in Central Cook Inlet during both the spring and fall indicated temperature differences of 0.2 to 0.4 °C and salinity differences of 0.2 to 4.0 psu between the surface and the bottom of the water column. Vertical changes for both temperature and salinity were found to vary linearly with no thermocline or halocline development. Although these differences seem small, in the case of a rising positively buoyant plume, the plume will eventually reach an equilibrium level where it will become trapped, thus reducing vertical mixing as the plume rises.

To determine what affect vertical structure would have on model dilution calculations, the vertical structure of the water column was given a salinity gradient of 0.2 psu between the surface and the bottom and temperature was kept the same for the East Forelands case modeled with Visual Plumes. As expected, this change was found to have little effect in the immediate vicinity of the diffuser where mixing is primarily due to momentum differences (jet mixing) but that as buoyancy differences took over, mixing of the plume was substantially reduced compared to that seen with an isohaline water column structure and the effluent plume became trapped at mid-depth. Dilutions were found to be reduced by 40-50 % resulting in mixing zones that were nearly twice as large. Based on actual hydrographic data and this limited modeling effort, it appears that the CORMIX modeling effort should be reexamined for the effects of vertical structure and that more realistic ambient conditions should be utilized in the mixing zone calculation efforts.

Footnotes

9 Okkonen, S.R. and S.S. Howell. 2003. Measurements of Temperature, Salinity and Circulation in Cook Inlet, Alaska. University of Alaska, Coastal Marine Institute. Final Report. OCS Study MMS 2003-036.

Response

Please reference the following in the Response to Comment Document:

Response # 39

Response # 59

Response # 60

Comment ID CI-060.038

The lack of summarized DMR data made it difficult to follow the process used for determining maximum reasonable concentrations for determining permitted effluent limits.

Response

Please reference the following in the Response to Comment Document:

Response # 38

Response # 40

Comment ID CI-060.039

[Whole Effluent Toxicity (WET) – Many of the typical testing and reporting requirements for the WET testing are for the most part absent and are not consistent with requirements that are typically included in NPDES permits for other dischargers in Region 10. Request the following clarifications and requirements be added to the permit:]

◆ For static renewal testing, the effluent water used in the toxicity tests must be renewed daily. However, a fresh 24-hr composite sample need only be collected every other day (i.e., days 1, 3, and 5) except in the event that weather and/or shipping difficulties prevent delivery to the laboratory.

Response

Please reference the following in the Response to Comment Document:

Response # 48

Response to Public Comments Submitted By:

Author Name: Patrick Norman

Organization: Port Graham Village Council

Comment ID CI-020.001

The Native Village of Port Graham maintains the request for Zero Discharge from existing and all future oil exploration and development in the proposed Oil & Gas permit. We understand that EPA is governed by regulations, has conducted an economic analysis and that EPA lacks legal basis to prohibit discharges from existing oil & gas extraction facilities. However, there are numerous compelling reasons that we feel EPA's economic analysis of ongoing discharges into Cook Inlet marine waters rather than requiring zero discharge is outdated.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-020.002

Based on our extensive research, the Port Graham Village Council concurs with the new report by Cook Inletkeeper Senior Engineer, Lois Epstein entitled, "Dishonorable Discharges: How to Shift Cook Inlet's Offshore Oil & Gas Operations to Zero Discharge."

Response

Thank you for your comment.

Comment ID CI-020.003

We strongly agree that the price of crude oil is currently at record levels and oil prices in 2006 for Cook Inlet are higher. This will be a direct result in higher industry profits, which could justify zero discharge in Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-020.004

The Port Graham Village Council is very concerned with the proposed permit to expand the existing area of the permit which will increase the produced water discharges. We can undeniably argue that based on our Traditional Ecological Knowledge, allowing additional toxic discharges into the Cook Inlet will increase risks to our Traditional resources that we have depended on for thousands of years.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 9

Comment ID CI-020.005

During the development of EPA's Environmental Assessment and draft proposed permit, there is documented Traditional Knowledge that has been collected that acknowledges the decline in the population of our important food species and the quality of the species being harvested. There are many uncertainties and EPA should gain a better understanding of the potential impacts of the discharges before they proposed to expand the coverage area in the permit. With that said, it is unacceptable to the Port Graham Village Council to approve of expanding the existing permit areas.

Response

Please reference the following in the Response to Comment Document:

Response # 33

Response # 9

Comment ID CI-020.006

At the government to government consultation here in Port Graham in early May, we briefly mentioned that the proposed permit violates Tribal interest under the Oil Pollution Act of 1990. Clearly, there have been and will continue to be damages to the natural resources from the NPDES permit for Oil & Gas, which is a direct violation of the OPA 90'. The law clearly states that a collection of environmental baseline data in ecologically sensitive areas at particular risk to oil discharges shall be established to evaluate the environmental effects of oil discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 34

Comment ID CI-020.007

In the summary of proposed changes, one of the changes to the existing permit is, “EPA proposes to include a new study that will involve collecting ambient data to determine the effect of large volume produce water discharges in Cook Inlet.” The Port Graham Village Council is requesting government to government consultation in assisting EPA in developing the study in collecting ambient data to address the OPA '90 regarding environmental baseline data in ecologically sensitive areas.

Response

EPA has worked and will continue with the State, Industry, and CIRCAC to identify the objectives of the study and to develop the study plan. EPA will forward a copy of the final study plan to the Port Graham Village Council.

Comment ID CI-020.008

On behalf of the Native Village of Port Graham, the Port Graham Village Council strongly believes that the proposed permit appears to violate the Clean Water Act. As we have stated in previous comments, the re-issuance of this permit should not move forward without addressing our concerns. It is our resources that are being impacted by the discharges, and we have a responsibility to our future generations that will be using the traditional resources, to provide them with clean and safe foods for the many generations to come.

We thank you for giving us the opportunity to comment and we look forward to working closely with EPA to resolve these important issues. Quayana

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response to Public Comments Submitted By:

Author Name: Mike O'Meara

Organization: N/A

Comment ID CI-090.001

Thank you for the opportunity to submit comments on the proposed Cook Inlet NPDES general permit, Environmental Assessment, and Preliminary FONSI. Please make the following a part of the official record.

Response

Thank you for your comment.

Comment ID CI-090.002

As I read the proposed permit it would increase allowable industrial discharges of waste materials into Cook Inlet waters. This is insane. It is also in direct conflict to both the spirit and substance of the Clean Water Act.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-090.003

Cook Inlet is the only US water body where the oil and gas industry is given license to pollute rather than being restricted from doing so. As a long-time resident of the Kenai Peninsula and a regular user of Cook Inlet waters and fisheries, I want to see you move to a ZERO DISCHARGE Requirement for any company doing business here. At the very least, in the interim, permitted discharges should be reduced as oil and gas production declines. In case you've forgotten, NPDES means National Pollution Discharge ELIMINATION System!

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-090.004

Exxon Valdez oil spill research shows that minuscule traces of oil can have long term, adverse impacts on salmon and other sea life. Limited testing by the EPA has already revealed an array of toxic pollutants in Cook Inlet fish. How coincidental is it that these are the very same pollutants you permit the oil and gas industry to dump? Unfortunately both industry and government refuse to thoroughly monitor water, fish, and sediment near oil and gas facilities. Could that be out of fear of what you might find?

It is absolutely indefensible for you to allow the oil and gas industry to dump some two billion gallons of toxic wastewater into our valuable coastal fisheries each year. Countless families and businesses rely on Cook Inlet's marine life, including its salmon, halibut and shell-fish. Our salmon fishermen and local governments struggle to combat the glut of farmed fish on world markets. We are working with salmon branding and certification efforts to compete by marketing our fish as clean, healthy, wholesome, and untainted. Toxic dumping undermines our efforts and threatens the health of our fish, people, and local business.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 89

Response # 95

Comment ID CI-090.005

Oil and gas industry pleas of financial hardship as justification for continued dumping in Cook Inlet are absolute drivel. These guys are making record profits. You know as well as I that the technology exists to reinject wastes instead of dumping them into the Inlet. Cook Inlet platforms rely on outdated technology because the corporations operating them are so avaricious they'll do anything to increase their already obscene level of profit.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-090.006

I object to issuance of an expanded, NPDES general permit for Cook Inlet. Please go back to the drawing board and rewrite the permit to systematically reduce allowable discharges over a reasonable time until they are completely eliminated.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Bruce Passe

Organization: Oil and Gas Industry

Comment ID CI-580.001

Hi, my name is Bruce Passe, I'm a local boy, carry my lunch to work every day, lived here my whole life. And Cook Inlet has a dual purpose for me, it provides my livelihood and it's also my playground.

And with that being said, I'm in the oil and gas industry. This isn't the North Slope, it isn't the MobileExxons of the world, it's small players. And it's a struggle. This is a declining field to the point that the State has recognized this and given relief on royalties for Cook Inlet. It's a struggling field. There is huge challenges. It's very mature and in decline.

Cook Inlet provides half the state's population their energy source. Half the population of Alaska lives in the Cook Inlet Southcentral region. All the gas and oil from this area provides for them.

To further burden the oil and gas industry -- and we're hurting, we need more exploration, they need to grow. Every little burden that hits them takes away from capital for that exploration for growing. They do -- I'm pretty intimate with the regulations that they put on themselves, and they are abiding by state and federal regulations. They do a lot. Like Mr. Johnson said, there has been study after study on Cook Inlet. There is no degradation out there that can be proven.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Comment ID CI-580.002

The one lady talked about a lot of stuff I didn't understand, she was very well prepared, but she said that state and federal agencies have given the oil and gas companies breaks so they don't have to abide by these laws. They are abiding by the laws. There is no damage being done, and there has been a lot of studies. She made a comment there had been no studies. There have been a lot of studies.

With that being said, I want to promote the industry, I want to help them. And I know no one here has any intent to hurt any industry or -- I mean, whether it's fishing industry or the oil and gas industry or the sports fishermen. But what's in place is working, and I'd like to just see that stay there.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Comment ID CI-580.003

And I would also like to see you grant the extension. And I thank each and every one of you for the work you do. Thank you.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Thomas Pebler

Organization: N/A

Comment ID CI-660.001

As an Alaskan, I am very concerned about the effects of oil spill on our coastline and precious fisheries. After witnessing the catastrophic Exxon Valdez spill and the ongoing effects, it is imperative that State and Federal authorities work to diminish the chances of this kind of pollution.

Increasing the amount of allowable discharge would be counterproductive and positively destructive. Alaska needs cleaner water and cleaner, increasingly efficient mineral extraction practices. It would be in our best interest to promote the kind of innovation that brought double hulls for oil tankers and prevented catastrophe in Alaskan waters during the Seabulk Pride grounding.

The idea is to prevent the destructive effects of pollution - not to be intentionally destructive with waste.

NO TO INCREASING THE AMOUNT OF DISCHARGE FOR THE OIL AND GAS INDUSTRIES!

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response to Public Comments Submitted By:

Author Name: Robert Peterkin

Organization: CIRCAC

Comment ID CI-610.001

I live in Kenai, Alaska. I've lived here my whole life, third generation Alaskan, and graduated high school here. I work here and also play here, and I work in the oil industry, but I also play in the rivers and eat the fish and have my whole family here, and enjoy it.

I guess the biggest thing to me is in probably, well, since 1988 is when I started in the oil industry. I have worked in the contracting business and with just various -- I've been on every platform, I'm pretty sure in Cook Inlet. I haven't been on the Osprey, but I've been on every one but that one.

Seems like right when I get out there the first thing they tell us is nothing goes overboard, we're checking this and they run you through and they take you all up and down and they show you how the facility works and how things work.

And I remember one year for Unocal I was working for them, and, gee, the drilling mud, we brought it to town in these big containers and then shipped it down to the Lower 48 to get rid of it, and they spent millions of dollars taking care of the stuff. And I just -- I've never ever had one customer tell me that, you know, we can't afford this or we're going to take a shortcut or anything like that. I have the utmost respect for all these operators in Cook Inlet and have had good experiences with them.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Comment ID CI-610.002

I mean, if anything they have really stressed to me how important it is that we're not going to let something slide or go in the Inlet or something like that. But I think that -- I looked through the document a little bit, I didn't get to read the whole 700 pages, but I looked through a fair amount of it. And I do think that it would be good to give them some more time that they are asking for, the extra 45 days or whatever, so that they get a good thorough look at everything and that we make good, sound decisions.

Response

Thank you for your comment.

Comment ID CI-610.003

And I support what Sue said from CIRCAC, I'm on the board. And I can't speak for CIRCAC, but I know that being on the board we do an awful lot of studies and a lot of looking into this stuff, and there are -- a lot of research has been done on the outfall in Cook Inlet, and it's been positive so far. But I don't think we need big changes or burdens on these companies.

But I'd also like to say I think you guys are doing a good job and you're staying up late and traveling all over and having to listen to a lot of people, and I appreciate it. I think it's worthwhile, definitely a worth while venture. Thank you very much.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response to Public Comments Submitted By:

Author Name: Carl Portman

Organization: Resource Development Council

Comment ID CI-420.001

Good evening. My name is Carl Portman, deputy director of the Resource Development Council.

RDC is a statewide organization made up of all resource sectors, business associations, labor unions, Native corporations, tourism providers, local governments and individuals.

RDC's purpose is to encourage a strong diversified private sector in Alaska and expand the state's economic base through responsible development of our natural resources.

A renewal of the NPDES general permit is critical to continued oil and gas production in Cook Inlet.

RDC believes it's essential that permit conditions are technically and economically achievable.

Response

Thank you for your comment.

Comment ID CI-420.002

There are a number of conditions in the proposed permit that are of concern to us. All of these conditions add to the cost of operation and reduce the period of time that Cook Inlet facilities will continue to meet economic thresholds for operation.

Major revisions to the existing permit that result in increased monitoring and regulation are unnecessary given the fact that studies have consistently demonstrated no environmental degradation of the environment after 40 years of oil and gas activity in Cook Inlet.

Under state and federal law the oil and gas industry must comply with stringent water quality standards that protect aquatic life. All discharges which have relatively low toxicity are strictly monitored prior to release. The State has acknowledged that because of the swift currents, tides, and the mixing capacity of Cook Inlet discharges do not accumulate in the inlet, nor do the studies indicate accumulation elsewhere.

The new permit should allow for operations to continue under the existing regulatory regime with improvements directed at making monitoring more efficient in reducing the number of samples required.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Comment ID CI-420.003

Of particular concern in the new permit are requirements for additional studies, increased monitoring, as well as increased frequency of monitoring and physical changes to facilities which are very expensive.

Because Cook Inlet fields are nearing the end of their useful lives, major permit changes now could negatively impact the economic viability of existing operations, which I might add are marginal even at today's high oil prices. Despite high energy prices, four facilities have been shut down. Renewal of the current permit is in the best interest of Alaska and its local communities. It is protective of the environment and allows for continued operation of industry facilities which provide the region with its daily energy needs, many well-paying year round jobs, and tax revenues to local and state governments, among other benefits. Thank you for the opportunity to comment

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response # 5

Response to Public Comments Submitted By:

Author Name: David Raskin

Organization: Center for Alaska Coastal Studies

Comment ID CI-450.001

I'm Dr. David Raskin, I live in Homer, and I've been around for a while. I'm an old man and I've seen a lot of things happen.

I've been involved with the environmental monitoring committee of CIRCAC, as president of the Center for Alaska Coastal Studies, served on the Fish & Game advisory committee in Homer, I'm the president of the Friends of Alaska National Wildlife Refuges, and I'm a board member of Trustees for Alaska, so I've had a lot of experience with these things.

I remember when President Nixon signed the environmental -- the legislation establishing the EPA. I want to read you a paragraph from your own website.

The U.S. Environmental Protection Agency was established in 1970 consolidating in one agency a variety of federal research, monitoring, standard setting and enforcement activities to ensure environmental protection. EPA's mission is to protect human health and to safeguard the natural environment, air, water and land.

Now this National Pollutant Discharge Elimination System permit that you're talking about will actually allow a huge increase in pollution in the Cook Inlet, and this is a very serious problem.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Comment ID CI-450.002

I've worked for 35 years with NEPA, environmental assessments, draft environmental statements, environmental impact statements, and this is a nice window dressing that ultimately simply allows the decision makers to make the political decisions that they have already predetermined.

Lawsuits, and I've been involved in many of them, are simply a waste of time and money because politically you do what you want to do.

Response

Thank you for your comment.

Comment ID CI-450.003

This finding of no significant impact, you don't know that, you don't have the data. No unreasonable degradation, you don't know that, you don't have the data. None of the studies that are needed have been done.

Response

Based on the information presented in the EA, there was no indication that reissuance of the permit would result in significant impacts to the environment. In this case, a finding of no significant impact is appropriate.

Comment ID CI-450.004

As far as mixing zones in the state is concerned, and your agency and the State working with Minerals Management and the oil industry with these mixing zones, there was unprecedented public outrage in Alaska at the State's promulgated regulations for the mixing zones.

Response

Thank you for your comment.

Comment ID CI-450.005

In the Cook Inlet you are threatening with these permits our salmon. The wild brand of salmon has become extremely important to this state, to its economy. You're threatening the subsistence of Native people who eat the flora and fauna in this Inlet that are being polluted by these discharges. You are threatening the Belugas, which hopefully will go on the endangered species list probably too late, they will perish.

The same federal agencies are involved in the same kinds of activities in the Beaufort Sea where they will threaten the whales and the marine mammals that the Native people depend upon; in the Chukchi Sea where the same effects with all the proposed oil drilling; in the north Aleutian Basin and Bristol Bay threatening the major salmon fishery in the world and all of the people who subsist on that. And all of this to help the oil industry to develop oil and for everyone to burn fossil fuels

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 95

Response # 96

Comment ID CI-450.006

As our President has said, we're a nation addicted to oil, and yet all of the federal agencies these days are promoting the destruction of the Earth. All of this, these activities designed to help the oil industry, are producing more and more global warming which is going to destroy the Earth.

My daughter just finished a major brief to be filed with the U.S. Supreme Court in a lawsuit against the Environmental Protection Agency for refusal to regulate greenhouse gases as pollutants, and yet all of your activities like this feed into that problem.

Yesterday NRDC disclosed that the Environmental Protection Agency plans to allow a huge increase in pollution from industrial plants that will produce more toxic pollutants in the air. EPA officials have been resigning over several years in this administration in protest over the fact that science is being replaced by politics in this administration, and this is an outrageous, destructive and ultimately dangerous course to proceed on.

Let's get back to the P in EPA, and instead of having what appears to me to be a national pollutants to destroy the environment system, NPDES, which is what this really is, let's have a real Environmental Protection Agency and go back to what we need to do. Stop this nonsense and get on with the job of developing alternative energy sources, and stop the burning of fossil fuels before we are over the tipping point and destroy the Earth, which we probably already have achieved. Thank you very much.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: David Raskin

Organization: Center for Alaska Coastal Studies

Comment ID CI-451.001

My name is still David Raskin. I just wanted to say under the pressure of the five minute time rule I inadvertently but deliberately omitted thanking all of you for coming here, spending your time listening to these harangues from us, but I hope that you found some substance in these. And we appreciate all your efforts, and we also understand the difficulties that all of you have as professionals in working in this current environment where science is overruled by politics. And we appreciate the efforts that you do engage in and hope that some day in the near future this will change. And we thank you very much for coming.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: B. Sachau

Organization: N/A

Comment ID CI-080.001

I oppose reissuance of this permit. I want zero pollution to result from this drilling as a maximum. I very much oppose pollution from this drilling. I do not think any permit should be reissued until the operation gets clean-absolutely squeaky clean and does not pollute.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Susan Saupe

Organization: Cook Inlet RCAC

Comment ID CI-570.001

Hi, Susan Saupe, I'm the director of science and research for Cook Inlet RCAC. And I came here today to pretty much just make one comment, which was to request an extension, because we are in the process of conducting a full review of the mixing zone application environmental assessment, and of course a draft permit.

Having talked with you earlier, I realize that you are giving careful consideration to that, but for the record, and to be redundant, I would like to say that -- to emphasize Cook Inlet RCAC's potential role, through consultation with EPA during this process, such as the development of the draft NPDES permit. We were established by Congress in part to provide a mechanism for industry agencies and citizens to work together on issues related to Cook Inlet crude oil operation, and as you know, one of our responsibilities under the Oil Pollution Act of 1990 is to provide advice and recommendations on permits and regulations. And we were disappointed. We tried to utilize the language that states in OPA '90 that federal agencies are to consult with us prior to taking any action on any site-specific permit. And we -- so we had hoped -- that we felt that the language in OPA '90 does give us a stronger consultation role than what we were able to receive.

And we real feel we are a strong resource for providing information on the physical oceanography and sediment contaminants, and so we hope that in the future and as we move forward with this draft permit that we can play a larger role.

So for that reason, and due to the vast amount of information associated with this permit, we are on the record asking again that the comment period be extended to allow for a thoughtful, careful, and comprehensive review.

When we submit comments we will be submitting comments formally under the deadline that will represent our full board of directors, and so at this point we're not -- I'm not prepared to make any comments on specifics of the permit, other than that we would like to work closely with industry and EPA in designing an appropriate sediment and water quality monitoring program that is mentioned in the draft permit.

We will be providing specific recommendations and/or a process for developing a program that will provide answers to specific questions. As written it's not clear if the goal of adding this to the permit is an effect study, a plume modeling dilution study, or a status and trends type study. So I think those questions need to be carefully clarified and we can move forward in designing a comprehensive program that can address those questions

Response

Thank you for your comment.

Comment ID CI-570.002

I'd also like to request that the environmental assessment be updated to provide some additional information. There was a lack of sediment quality issues. It jumped from water quality to organisms, and I think there was a major component missing, especially since I think the sediment pathway is really a big risk in Cook Inlet, or that would be the pathway that you would see the transport of most contaminants.

We will provide summaries from the reports that we have done in the area that have not been incorporated into that environmental assessment. I'd also like to make sure that the biological assessment is updated in the context of the Federal Register notice that was just issued by NMFS on potential listings.

So with that, I'd like to work closely with you in moving forward with this permit and we will be submitting formal comments, thanks

Response

A discussion on sediment has been added to Section 3.4 of the Environmental Assessment, including reports from CIRCAC. The same discussion was also added to a revised version of the biological assessment submitted to NMFS and USFWS.

Response to Public Comments Submitted By:

Author Name: Will Schlein

Organization: N/A

Comment ID CI-070.001

The vibrant fisheries of Cook Inlet support countless Alaskans. Yet Cook Inlet remains the only coastal waterbody where EPA allows the oil and gas industry to dump its toxic exploratory and production wastes. Now, EPA has proposed a permit that will INCREASE toxic pollutants from oil and gas operations in Cook Inlet. I am writing now to urge you to bring Cook Inlet into line with the rest of the nation, and to require "zero discharge" in the pending NPDES permit (AKG-31-5000). Advances in technology since the last permit, coupled with projected high oil and gas prices, now make it feasible for oil and gas wastes to be properly treated (i.e. re-injected) in Cook Inlet.

Footnotes

Hanh Shaw noted she received about 150 of these comments

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-070.002

EPA's own studies have found hydrocarbon and heavy metal pollutants in Cook Inlet fish, plants and shellfish - and these are the same types of pollutants discharged by oil and gas operations. Furthermore, Cook Inlet's successful salmon branding and marketing efforts hinge on the perception that Cook Inlet fish will be healthier and fresher than farm-raised salmon.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-070.003

Please consider this comment to require "zero discharge" for oil and gas wastes in Cook Inlet, so our children can enjoy the bounty of this magnificent waterbody too.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Dorle Scholz

Organization: N/A

Comment ID CI-340.001

I am very concerned about the proposed EPA draft Clean Water Act Permit which increases allowed Toxic waste disposal into Cook Inlet. I cannot comprehend how this could be a serious proposal, considering the already high admission rates into the Inlet.

Please do not support this draft and focus on ways to decrease pollution for the sake of area residents, the fishing industry and wildlife.

Thank you for your consideration.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response to Public Comments Submitted By:

Author Name: Dorle Scholz

Organization: N/A

Comment ID CI-341.001

I am writing now to urge you to bring Cook Inlet into line with the rest of the nation, and to require "zero discharge" in the pending NPDES permit (AKG-31-5000). Advances in technology since the last permit, coupled with projected high oil and gas prices, now make it feasible for oil and gas wastes to be properly treated (i.e. re-injected) in Cook Inlet.

Please consider this comment to require "zero discharge" for oil and gas wastes in Cook Inlet, so our children can enjoy the bounty of this magnificent waterbody too.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Bob Shavelson

Organization: Cook Inletkeeper

Comment ID CI-470.001

Thanks for the opportunity to testify. My name is Bob Shavelson, I'm the executive director of Cook Inlet Keeper. I'm here on behalf of over 600 members of our organization that live and recreate in the Southcentral Alaska area.

There is a lot of perspectives on this, and sometimes it does get controversial, but I think we can all agree that Cook Inlet is a fairly unique water body. We've got magnificent fisheries; we've got an isolated stock of Beluga whales that we've already heard about, we've got volcanoes in the area.

Response

Thank you for your comment.

Comment ID CI-470.002

So we all recognize the uniqueness of this area. But Cook Inlet stands out also in the regulatory arena for a couple things. Among other things certainly is it's the only coastal area in the United States where the Environmental Protection Agency allows dumping of produced waters and drilling muds and cuttings in the coastal zone.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 6

Comment ID CI-470.003

And it also stands out because it's also an area that does not exhibit best of all technology for navigation safeguards, there is no dedicated tugs. And I point that out because very recently we had 5 million gallons of oil run aground in the heart of our salmon fisheries. So those things play out.

Response

Thank you for your comment.

Comment ID CI-470.004

And the common link there is we're looking at corporate behavior that we all recognize and understand.

If you're a corporate manager you have a fiduciary duty to your shareholders and the owners of that corporation to maximize your profits, and the way that you do that is to push off the costs on anybody else you can. And when it comes to the oil and gas industry, what that means is externalizing those costs and pushing them onto the public. In the context that we're in here, that means dumping your waste in the public fisheries rather than spending your money to reinject them and treat them correctly.

And when I say these things, I'm not talking about the industry collectively. I know we have people in our community that work in the oil and gas industry and they are an integral part of our communities, the taxes to our community that support our schools and roads are obviously important. I'm talking here about management, the people in the board rooms in Houston and California that have no sense of place here, they have no role in our daily lives, yet they make decisions that affect every one of us, that's who I'm talking to when I talk about the oil and gas industry.

Response

Thank you for your comment.

Comment ID CI-470.005

But one of the things that we do hear from the management is that there has been no harm, you can't show harm from any of these things. And that's a funny refrain, and we've heard that a number of times before, but probably most classically we heard it in the early '90 from the tobacco executives when they stood before Congress and all raised their hands and they swore that nicotine wasn't addictive and didn't cause cancer, and despite a large body of scientific research that showed cause and effect linkages between cigarette smoking and cancer.

And the reason they could do that is because showing cause and effective linkages and scientific certainty is very difficult in the human body, and virtually impossible in a large dynamic system like Cook Inlet. So when we hear representatives coming forward and saying there is no harm, you would have to spend millions and millions of dollars to quantify that cause and effect harm here. And the best idea is to take a precautionary approach. If we recognize that these things are toxic, we know they can bioaccumulate, and we know we have the technology to protect our claim, why don't we be smart and invest the money and create jobs to not discharge these things.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 2

Comment ID CI-470.006

One of the things about environmental roles is that when EPA set standards or when the State sets standards, a violation of those standards is presumed to be a harm. Well, we can go back to 1995 and we can look at several thousand Clean Water Act violations by this industry that resulted in settlement of over 2 million dollars. I know very well because \$900,000 of that went to start Cook Inlet Keeper and it gave me a job, so I'm very familiar with that.

But then lo and behold starting in 2000 we saw the same violations, and they occurred for several years and we had several hundred violations and hundred of thousands of dollars in fines. So what we're seeing here is a cost to doing business. We're not seeing a desire to comply with these permits, there is a permit to pollute and there is no real systemic desire to change.

Response

Thank you for your comment.

Comment ID CI-470.007

I'm getting close to my five minutes. I would ask because I'm representing over 600 people that I will be given a little leeway on the time right now.

The thing that I think is most glaring about this permit is that it doesn't follow the Clean Water Act's mandate to continually ratchet down pollution and to embrace new technological advances. This permit actually increases the discharge of pollutants. According to our calculations, if you took the maximum flow and average concentrations from these discharges, you're looking at a hundred thousand gallons of oil being discharged in the Cook Inlet every year. That would be roughly 835 pounds of toxic heavy metals being discharged.

I know if I stood on the end of the dock in Kenai with a cup of oil and I poured it into the Inlet I would be arrested, and for good reason. But here we are turning around and allowing the industry to pollute at will. One of the things that we learned -- will have I have an extra opportunity to comment because I am representing 600 people?

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response to Public Comments Submitted By:

Author Name: Bob Shavelson

Organization: Cook Inletkeeper

Comment ID CI-471.001

Thank you, I appreciate the opportunity to follow up the previous comments that I started.

And I believe where I had stopped before was discussing just what Mr. Howell was talking about, and that was the changes in the permit. And hearing now that we're actually looking at increased discharges upwards of a hundred thousand gallons of oil discharged annually and over 835,000 pounds of heavy metals according to proposed limits, I don't understand how this doesn't violate any backsliding provisions of the Clean Water Act which were specifically imposed by Congress to ratchet down our pollution discharges to where we get to or approach some type of zero discharge scenario.

Response

Please reference the following in the Response to Comment Document:

Response # 37

Response # 6

Response # 64

Comment ID CI-471.002

As several commenters noted before, this permit, like many permits in Alaska, relies on what I would consider a legal fiction called a mixing zone. For folks that are unfamiliar with this, the Clean Water Act was designed so we would meet fishable and swimmable standards at the end of the discharge pipe, but when that proved a little bit difficult and costly this whole notion that dilution is a solution to pollution was imposed, and now we see mixing zones, which were originally supposed to be the exception, becoming the rule.

In Cook Inlet I don't know that you can point out a permit that's got larger mixing zones, at least in the Pacific Northwest, and I would like to see nationally where you have larger mixing zones.

Response

Thank you for your comment.

Comment ID CI-471.003

I know these mixing zones that are being proposed here will be over a mile wide, and so what that means for people, you need to understand that you would have mile wide girth in Cook Inlet where the standards designed to protect people and fish are being violated, and I just think that's bad public policy, particularly when we're putting so much effort into salmon branding and marketing efforts, particularly Kenai Wild where we're marketing salmon to combat the glut of farmed salmon on world markets, really hinges on the whole notion of perception and that the perception that our seafood is healthy, fresh and wholesome for people to consume.

Response

Please reference the following in the Response to Comment Document:

Response # 95

Comment ID CI-471.004

I don't think any serious scientist could look at the relatively few studies that have been done and conclude that there is no impact. Again, the science behind cause and effect is so tenuous and expensive, that all we can speculate is that there have been very spotty studies done. And some of them have showed some concerns.

One of the specific studies that was mentioned was that done by the Minerals Management Service down in Shelikof Strait, and I thought that that was remarkable because why would you ever look 250 or 300 miles away from the discharge point for toxic pollution. In fact, the lead researcher on that study specifically said he couldn't envision finding pollutants that far, and didn't know why they were conducting the study in the first place.

Another study that was done was done by EPA on subsistence foods in Cook Inlet. And that study came about in response to a lawsuit that Cook Inlet Keeper brought along with some Native tribes that rely heavily on subsistence foods here. And the study found a broad array of toxins in fish and shellfish in Cook Inlet. These are the very same type of toxins discharged by the oil industry, but because the way the study was conducted, there was no way to draw that cause and effect linkage between the toxic contaminants in the fish and shellfish and the discharges.

So it's important to recognize that there is information out there, and it just depends on how you want to interpret it.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Comment ID CI-471.005

One of the biggest things that's overlying all this, and someone mentioned it before, is the recognition now, and I think it's irrefutable in the scientific community that our climate is changing and that the combustion of carbon is accelerating that. I drive a car, I fly in planes, I've benefited greatly from the consumption of oil and gas. And I also recognize it's something that we're eventually going to have to move away from, not only because supplies are going to decrease, but because the continued combustion of carbon warming the climate, and we're feeling it disproportionately here in Alaska. Our monitoring shows that the salmon streams on the Kenai Peninsula are heating up at an alarming rate.

So it makes sense if we're thinking about clean energy and sustainable jobs to move away from oil and gas and get into tidal energy and wave energy and things that are going to create good paying jobs for a long time.

Response

Thank you for your comment.

Comment ID CI-471.006

I'll simply close by saying, again, I would support the extension of time as a very complex permit and there is a lot of people that would like to take a harder look at it,

Response

Thank you for your comment.

Comment ID CI-471.007

and I have a petition here that's got roughly 200 signatures on it for folks that support zero discharge, and I would submit that for the record and we'll follow up with comments. And thanks again.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Suzanne Shore

Organization: N/A

Comment ID CI-400.001

Hello. My name is Suzanne Shore, and I'm a resident of Anchorage. I have a degree in chemistry and experience both as an environmental scientist working in a laboratory, and a high school science teacher.

For the last two-and-a-half years I've worked as an environmental professional in the oil and gas industry, and I appreciate the opportunity today to come and share my comments with you on the proposed NPDES permit.

Response

Thank you for your comment.

Comment ID CI-400.002

I believe it is for the benefit of all Alaskans that the final permit issued be clear, concise, and based on a solid foundation of science and not fear or opinions. Both the permittee and the public need to understand the requirements and intent such that all act within the boundaries of the law and the environment is protected; otherwise what has been gained by the NPDES program?

The proposed permit is written such that information is hidden in footnotes and duplicated in permit conditions. I have found that some requirements are contradictory. For example, one section of the permit requires a letter to be written within five days if the daily maximum permit limit is exceeded for whole effluent toxicity, yet another section of the permit states a letter is to be written within 15 days; once again, the goal is to have a clear and concise permit.

Response

Thank you for your comment.

Comment ID CI-400.003

It is my understanding that permit limits for discharges are supposed to be derived from sample results, and an evaluation of those results are used to determine the likelihood of exceeding water quality standards.

The proposed permit requires continued monitoring for metals such as mercury, yet if you look at five or more years of data reported in the discharge monitoring reports, you can observe that some facilities have only on occasion exceeded a permit limit for mercury. Haven't the companies demonstrated that the water discharged is unlikely to exceed water quality standards?

It is also my understanding that the whole effluent toxicity permit limits for miscellaneous discharges were not based on sample results and that the discharges are not likely to exceed water quality standards. So how can limits be imposed if the same process was not used to establish those limits as it was in other cases? Once again, one of the objectives should be to have a permit based on scientific fact and not opinions.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 202

Response # 4

Response # 8

Comment ID CI-400.004

Sampling and performing analysis on the discharges is the critical tool in ensuring that water quality standards are met and the environment is protected. Please keep in consideration, though, that there are a number of factors and scenarios that play into whether a permittee can feasibly meet requirements and not violate conditions in the permit.

For example, there are only a handful of laboratories in Alaska. If an analytical method is required in the permit without the option of an alternative, and the laboratory chooses to no longer run the required method, the permittee does not have an option and is in violation of the permit. The proposed permit specifies old laboratory methods that are no longer performed by laboratories in Alaska. Please consider adding the phrase, "or equivalent upon approval" to all methods citations in the permit to make the permit more flexible so that the best analytical methods can be used.

Another point to consider about sampling is that most of the laboratories in Alaska send the samples to the Lower 48 for analysis. Logistics can be a nightmare with poor weather or airports failing TSA inspections. In spite of all attempts, sample bottles have been broken in transit, lost in transit, or failed to reach the laboratory in sufficient time to begin analysis, all of which can result in violations.

The permit shouldn't be full of potential pitfalls. It shouldn't cause well-intentioned operators to be tagged as violators because a plane is late. There is no laboratory in Alaska that conducts whole effluent toxicity testing. I repeat, there is no laboratory in Alaska that conducts whole effluent toxicity testing. So if all goes well, meaning there is no fog over the Inlet and the local airport has passed their TSA inspection, then these samples collected near the small town of Kenai have the chance to make it to Eugene, Oregon within 36 hours to meet the method requirements, otherwise there is a violation.

I am not requesting that you remove all sampling requirements; however, I'd like you to consider all the real life scenarios when writing and stipulating sampling and analysis requirements

Response

Please reference the following in the Response to Comment Document:

Response # 171

Response # 195

Comment ID CI-400.005

People have expressed an interest in how the discharges are affecting Cook Inlet. As a result, an environmental ambient study is required in this permit. Scientific studies have been conducted in the past for the same reasons and have shown that no negative impacts have been observed that are directly related to the oil and gas operations in Cook Inlet.

Ongoing studies performed by outside entities such as CIRCAC are organized with a scope and follow approved scientific procedures such that conclusive results can be obtained. Their findings will likely be more readily accepted by all members of the community.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-400.006

At public hearings in both Kenai and Homer individuals commented that the proposed permit allows operators in Cook Inlet to dump 100,000 gallons of oil into Cook Inlet. I believe this is an inflammatory remark made to scare people. In the present economy why would any company invest time and money to bring up oil only then to dump it overboard into Cook Inlet.

Likewise, companies do not purchase expensive chemicals only to turn around and discharge them. Chemicals are used in the smallest amount to be effective and injected at strategic points to optimize the system and ensure that the integrity of the pipelines is maintained.

Once again, the goal here should be to finalize a clear and reasonable permit based on science, and I hope my comments made this evening can help you in that effort. Thank you for your time and the opportunity.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Roxanne M. Sinz

Organization: N/A

Comment ID CI-310.001

I am writing in response to your invitation to comment on the Draft NPDES permit up for renewal in Cook Inlet. I strongly object to the increased environmental standards proposed in the NPDES permit. It is common knowledge that production from the Cook Inlet platforms has been steadily declining. Any further regulation will inevitably force the premature shutdown of these platforms.

My main concern in the proposed changes in the NPDES requirements is that the need to maintain environmental standards for existing and future resources must be balanced with the need to maintain Cook Inlet as a provider of job opportunities and stimulator of the local economy that has become so dependent upon it.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Comment ID CI-310.002

An additional concern is that people are already trained to use the existing permit. The permit is confusing, long and unclear-it is going to be hard to comply with and will require training and time to implement.

Response

Please reference the following in the Response to Comment Document:

Response # 91

Comment ID CI-310.003

In summary, I support the existing NPDES requirements and see no environmental or economic benefits to revising the discharge criteria.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: Sharmon Stambaugh

Organization: State of Alaska Wastewater Discharge Permit Program

Comment ID CI-040.001

The Alaska Department of Environmental Conservation (ADEC), as a cooperating agency, has addressed water quality concerns in state waters through a draft Section 401 Certificate of Reasonable Assurance submitted to EPA on February 17, 2006. ADEC appreciates the opportunity to submit these additional comments on the draft proposed permit and fact sheet.

Response

Thank you for your comment.

Comment ID CI-040.002

1) Cooperation on Response to Comments: ADEC has received letters with public comments on both the NPDES permit and Alaska Water Quality Standards in the 401 certification. It would be advantageous to both agencies to cooperate on the Response to Comments as part of a complete public review process.

Response

EPA agrees. EPA and ADEC's Responses to Comments reflect that cooperation.

Comment ID CI-040.003

2) Fact Sheet revision: ADEC requests that the draft fact sheet be updated to reflect the final permit provisions. EPA Region 10 typically does not issue a final fact sheet but relies on the draft fact sheet, the final permit and the response to comments for a reader or permittee to understand the basis for permit decisions. Due to the complexity of this permit with provisions for existing dischargers, provisions for new discharges, discharges in both state and federal waters, and inclusion of new areas of coverage, a revised fact sheet would be helpful. For instance, Appendix A of the fact sheet was not updated to reflect the final permit limits in the public notice draft. A final fact sheet or addendum to the draft could better explain the connection between ADEC's final 401 certification and the final permit.

Response

Please reference the following in the Response to Comment Document:
Response # 22

Comment ID CI-040.004

3) Miscellaneous discharges (Discharges 005 - 014) Whole Effluent Toxicity tests. This new requirement for WET tests in the draft permit is based on concern about the use of treatment chemicals such as biocides and corrosion inhibitors that could be expected to have some toxic effects depending on the types of products used. The permit itself does not specify the type of treatment chemicals. Some existing dischargers use materials and chemicals such as flocculants that are not generally considered toxic. At least one discharger did not apply for a mixing zone from ADEC because of confusion about the types of products considered toxic.

Miscellaneous discharges include diverse sources such as desalination unit wastes, blowout preventer fluid, non-contact cooling water, and bilge water. Not every facility will discharge all of these waste streams. These discharges will be difficult to sample due to intermittent discharge, batch discharges, commingling of multiple discharges, and alternative disposal, when available, to injection wells. Some discharges consist of small volumes that can be included in enhanced oil recovery discharge to injection wells. Injected wastes would not need to be sampled. However, most facilities will need to discharge some portion of these miscellaneous discharges to Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 4

Response # 7

Response # 8

Comment ID CI-040.006

ADEC evaluated an analysis by Parametrix submitted by the existing dischargers as part of their mixing zone applications. This analysis expressed toxic potential as a "Hazard Quotient" not as Toxic Units (TUs) as required by our Water Quality Standards (18 AAC 70.020). The concept of a Hazard Quotient is applied in the proposed permit to determine an effluent limit expressed in TUs. There are no previous WET tests on these discharges, expressed in TUs, to evaluate.

Given the uncertainty in deriving effluent limits as Toxic Units, the difficulty in sampling, and the availability of other mechanisms such as best management practices and submission of manufacturers' toxicity data to address and reduce toxicity, ADEC does not support effluent limits for miscellaneous discharge WET testing this permit cycle. ADEC favors a thorough evaluation of the types of chemicals now used, substitutions for more toxic materials, and possibly limited WET testing reporting. Limited information is available at this time to support effluent limits for WET. At renewal, information will be available for ADEC to evaluate a WET limit based on an Alaskan water quality standard for toxicity.

Response

Please reference the following in the Response to Comment Document:

Response # 8

Comment ID CI-040.007

4) Environmental Studies requirement: EPA proposes to include a new study that will involve collecting ambient data to determine the effect of large volumes of produced water discharges to Cook Inlet. A requirement in Section VII of the permit is that operators discharging more than 100,000 gallons per day of produced water shall submit a studies plan. The fact sheet further explains in Sections IV. D and E that these studies will be responsive to information gathered as part of a Traditional Ecological Knowledge consultation with Cook Inlet area tribes.

The draft proposed permit is quite prescriptive for the minimum requirements for these studies. An existing EPA project, the Environmental Monitoring and Assessment Program (EMAP) has already conducted monitoring in Cook Inlet based on a sampling protocol that will allow the data to be compared with other environmental monitoring data in the U.S. ADEC and Cook Inlet Regional Citizens Advisory Council are cooperators on these studies. While the need for these studies may be further evaluated in the review of public comments, ADEC favors an approach that will tie in with an existing large scale monitoring effort in Cook Inlet.

The proposed monitoring in this section focuses on a grid of water column and sediment sampling near facility discharge points. ADEC points out that these studies, as proposed, do not validate or assess the accuracy of the models used for determining mixing zones for these discharges.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Comment ID CI-040.008

5) Use of Topsmelt (*Atherinom affinis*) for WET testing: EPA has specified that this vertebrate species be used for survival and growth tests in Section 111. A. 1 of the proposed permit. This species is used in another Cook Inlet permit (AK 000039-6 Cook Inlet Pipeline Company Drift River Terminal). However, the intermittent discharge at that facility has not required extensive WET tests to assess the year-round availability of this species. It has not been demonstrated that this is an appropriate species for Cook Inlet. Through 18 AAC 70.030 (Whole Effluent Toxicity Limit), ADEC reserves the ability to suggest alternative methods or species approved by the department that provide equivalent estimates of chronic toxicity. The department will require that the testing use sensitive and biologically important life stages of indigenous species, as the department considers necessary and feasible to protect aquatic life fully. While ADEC has found few protocols for indigenous species WET testing, we request further consultation with EPA on a feasible and appropriate test species for this permit.

Response

Please reference the following in the Response to Comment Document:

Response # 10

Comment ID CI-040.009

The final permit should include a Notice of Intent Form(s) to assist new dischargers to comply with state and federal requirements for coverage under this permit. If a mixing zone is requested, a preliminary evaluation by ADEC may be required before authorization under this general permit is granted. The steps of the approval process should be clear to the applicants.

Response

Please reference the following in the Response to Comment Document:

Response # 23

Comment ID CI-040.010

Thank you for the opportunity to comment. ADEC looks forward to finalizing this permit with EPA through the Response to Comments process. Please contact me at Sharmon_Stambaugh@dec.state.ak.us or 907.269.7565 if you have questions.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Charla Sterne

Organization: US Fish and Wildlife Service

Comment ID CI-030.001

On March 1, 2006, we received your biological evaluation (dated January 23, 2006) and effects determinations regarding the re-issuance of the NPDES general permit for oil and gas exploration, development, and production facilities in Cook Inlet, Alaska. The U.S. Environmental Protection Agency (EPA) is proposing to re-issue the now expired NPDES general permit for discharges into State and Federal waters in Cook Inlet. The proposed permit would expand the area of coverage to include the entire Cook Inlet north of Shuyak Island, with the exception of specifically excluded areas, and would authorize discharges from existing as well as new facilities.

Response

Thank you for your comment.

Comment ID CI-030.002

In the biological evaluation, EPA concluded that the re-issuance of the NPDES general permit for oil and gas exploration, development, and production in Cook Inlet is not likely to affect the short-tailed albatross, the Steller's eider, or the northern sea otter.

In evaluating this document and the potential for harm to listed resources, the Service considered not only the permitted discharges from exploration-drilling units and production platforms and petrochemical-plants, but also accidental releases of petroleum products and operational wastes from related infrastructure.

Short-tailed albatross do not occur in Cook Inlet and are considered to be highly unlikely to encounter permitted and accidental discharge plumes. Consequently, the Service concurs with your determination that the proposed re-issuance of the general permit for oil and gas exploration, development, and production facilities in Cook Inlet is not likely to adversely affect short-tailed albatross.

Response

Thank you for your comment.

Comment ID CI-030.003

The Service, however, cannot concur with your not likely to adversely affect determination for the Steller's eider or the northern sea otter for several reasons.

On several occasions, your document acknowledges a dearth of water quality and sediment data relevant to oil and gas discharges in Cook Inlet. Faced with this lack of data and given that we know that some of the persistent contaminants used in oil and gas operations can bioaccumulate, it would be imprudent to assume that Cook Inlet sediments are free of contaminants. More evidence is needed supporting your contention that Cook Inlet sediments are uncontaminated by oil and gas operational discharges.

You conclude: 1) that Steller's eiders are unlikely to be adversely affected by discharges from existing production facilities in northern Cook Inlet due to a lack of spatial overlap between Steller's eider distribution and designated mixing zones for those facilities; and 2) that sea otters are expected to be minimally exposed to increased pollutant concentrations in mixing zones and, thus, unlikely to be adversely affected; you cite EPA's approval and biological evaluation of the state's water quality standards for toxic and other deleterious organic and inorganic substances in support of these conclusions. Additionally, although you acknowledge that deposition of drilling fluids in shallow waters could alter benthic habitat and adversely affect Steller's eider prey base, you anticipate that such effects would be insignificant. Although strong tidal currents, estuarine circulation, and wind-driven waves and currents result in rapid dilution and dispersion of substances entering Cook Inlet, biological exposures resulting from chronic low-level releases of hydrocarbons and chemicals associated with oil and gas operations continue to operate over long periods of time and over large areas. Standard toxicity tests may not be sufficient to characterize the possible responses of long-lived organisms to chronic exposures.

Response

EPA has incorporated additional information into the Biological Evaluation and resubmitted the document to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service.

Comment ID CI-030.004

Also, please be aware that the EPA approved the state toxics and deleterious organic and inorganic substances standards without first consulting with the Service on the effects of that action on listed species; consequently, the Service did not concur with the not likely to adversely affect determination. A more thorough discussion of the proposed mixing zones including exact location and depths of outfalls and a scale map depicting mixing zones would be helpful.

Response

EPA has incorporated additional information into the Biological Evaluation and resubmitted the document to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The revised information included greater detail on the mixing zones taken directly from the draft permit.

Comment ID CI-030.005

The Service is particularly concerned with the potential for harm to Steller's eiders and sea otters resulting from accidental (but reasonably certain to occur) small releases of petroleum compounds and other operational wastes from associated infrastructure. Both of these species can be found in large groups in Cook Inlet, making them particularly vulnerable to contamination by oil. Oiled sea otters are highly susceptible to hypothermia, and the toxic effects from oil ingested while grooming. It is known that petroleum products released into the marine environment adversely affect eiders, other marine birds and their prey. The potential effects of development and production of new sources, including the installation of transmission lines, in the central and lower portions of Cook Inlet must be carefully considered in your evaluation.

Response

EPA has incorporated additional information into the Biological Evaluation and resubmitted the document to the U.S. Fish and Wildlife Service and the National Marine Fisheries Service. The revised information included additional discussion of developing new facilities, including transmission lines.

Response to Public Comments Submitted By:

Author Name: Stephan Stringham

Organization: Environmental Office for Blackfeet Indian Tribe

Comment ID CI-550.001

Water quality is not my area of expertise, although I have run EPA programs on water quality for the Blackfeet Indian Tribe when I ran their environmental office. I've talked with some of you earlier and addressed a few issues here, but since the public here may have some interest I'll repeat some of that.

In your setting of your water quality standards both in terms of the levels of individual pollutants and what's considered appropriate for an industry to discharge according to the best technologies available, we need a lot more information from you in terms of the specific chemicals that come out individually and in combination, how those chemicals interact with each other in the marine environment, once they get into the seawater how does the temperature, salinity, and various other factors affect those if you're dealing with hydrocarbons or metals, what oxidation or reduction occurs, what other chemical reactions go on that change these compounds, how does this affect their toxicity?

We deal not only with the immediate toxicity of one chemical at a time, but the whole soup of chemicals. We deal with it as immediately as it hits the fish or the invertebrates down there, and as some of them accumulate this in their bodies they are eaten by predators, it moves up the food chain.

And we need to look at not only the variety of chemicals that are coming out and the variety of combinations of chemicals, the amounts that are out there, we're talking about mixing zones, how far these chemicals spread. According to the directions of currents and the various other things that are going on out there, we need to look at what levels are toxic simply because of the chemicals themselves, which are lethal because they are impair the ability of the animal to survive in the wild or to reproduce in the wild.

I myself have done studies on one organic compound that was toxic to embryos at one part per hundred billion, something that doesn't show up in most tests, but you follow the embryos through and it was devastating to them, and they are part of the food chain, so anything that eats them gets impacted by that. So we've got a lot of things going on out there, and we would like to see you address environmental impacts with enough specificity so we can get a feel what's going on with our fishery out there.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 98

Comment ID CI-550.002

In addition to the simple facts of what happens biologically, we deal with the problem of public perception. A lot of money has gone into creating the market for wild salmon and keeping it. This is a pure salmon, something tells people you get a wild salmon and you get something special. And we may talk about changing water quality standards, and from one perspective it may look like it's a small change, but what does the market think about it. What does the average consumer think about what you're doing, and how this affects the marketability of our products out there, which of course is a main part of our economy out here.

I'm not going to go on in further detail here, but it's something we need to address in much greater detail than we've had an opportunity to do so far so the public really knows what the likely effects on the livelihoods and their way of life are. Thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 95

Response to Public Comments Submitted By:

Author Name: Lee Tannet

Organization: N/A

Comment ID CI-300.001

I am writing in support of the existing NPDES permit with no permit changes. The inlet is clean and safe. There are many studies that prove it. No permit changes are justified. Even the draft environmental assessment says that Cook Inlet is clean and is not being affected by more than 40 years of rig operations. An increase of the buffer distances as stated in the draft permit is unwarranted.

Who am I? I am a 28 year resident of Alaska. I am a real estate property owner-on the bluff of Cook Inlet-paying real estate taxes. I have worked in the oil industry-in the Cook Inlet-for the last 15 years and have witnessed first hand how our industry faithfully follows the current NPDES permit

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response # 3

Response to Public Comments Submitted By:

Author Name: Scott Thorson

Organization: N/A

Comment ID CI-270.001

I am writing as a long time Alaskan resident (well over 30 years) regarding the National Pollutant Discharge Elimination System (NPDES) general permit for Cook Inlet. I am writing you representing myself. I own a small business in Anchorage employing about 30 people. I do not have any ties to the oil and gas industry, nor have I ever worked in that industry.

Like most long time Alaskans, I am very concerned about increasing operations costs for the oil and gas industry here. The fields are getting old and require a lot of work and investment to keep them going. Without these operations contributing to the Alaskan economy, Alaska would be a very different place because most of the people here could not earn a living.

This is especially true in Cook Inlet since these fields are nearing the end of their useful lives, major permit changes now could negatively impact the economic viability of existing operations. Despite high energy prices, four facilities have been shut down with devastating loss of economic activity and jobs to support families in the region.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 92

Comment ID CI-270.002

The new permit must allow operations to continue under the existing regulatory regime with improvements directed at making monitoring more efficient and reducing the number of samples required. Under existing state and federal permits, industry must comply with stringent water quality standards that protect aquatic life. All discharges, which have relatively low toxicity, are strictly monitored prior to release. The State has acknowledged that because of the swift currents, tides and the mixing capacity of Cook Inlet, discharges do not accumulate in the Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Comment ID CI-270.003

The industry has a good track record in the inlet, but there are a number of very vocal organizations and people who are spreading mis-information about the state of the inlet and the industry in general. Please do not let this small minority interfere with an industry that has been very good for Alaska. Renewal of the current permit is in the best interest of Alaska and local communities. It is protective of the environment and allows for continued operation of industry facilities, which provide the region with its daily energy needs.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: William Van Dyke

Organization: State of Alaska Division of Oil & Gas

Comment ID CI-130.001

The Division provides the following comments relative to the proposed General Permit.

1) The draft permit states in LC.3 and I.C.3.b (p. 7):

"Geographic Restrictions. All facilities are prohibited from discharging in the following areas: . . . b. Within the boundaries or within 4,000 meters of a coastal marsh, river delta, river mouth, designated Area Meriting Special Attention (AMSA), State Game Refuge (SGR), State Game Sanctuary (SGS), Critical Habitat Area (CHA), or National Park. The seaward edge of a coastal marsh is defined as the seaward edge of emergent wetland vegetation. The following AMSAs SGRs, SGSs, CHAs, and National Park are located in the area covered by this permit: Palmer Hay Flats SGR, Kalgin Island CHA, Susitna Flats SGR, Anchorage Coastal Wildlife Refuge, Port Graham/Nanwalek AMSA, Trading Bay SGR, Potter Point SGR, Kachemak Bay CHA, Lake Clark National Park, Goose Bay SGR, Clam Gulch CHA, McNeil River SGS, Redoubt Bay CHA. . ."

2) The EPA Consistency Determination states in section E.3 (p. 13):

"In order to comply with the Coastal Zone Management Plan's prohibitions on the discharge of silty materials to certain areas, as well as activities that potentially alter protected biological resources, the proposed permit prohibits discharges within 4,000 meters (expanded from 1,000 meters in the previous permit) of a coastal marsh, river delta, or river mouth, or an AMSA, SGR, SGS or CHA to afford better protection of these sensitive areas. EPA knows of no plans for oil and gas facilities to operate in those areas, so the change should not have an impact on any of these facilities. With modern drilling technologies, there should be no need to operate within the expanded buffer zone."

Division Comment: The expansion of the prohibition area for all discharges in these areas from 1,000 to 4,000 meters is unnecessary and unjustified

- a. The EPA Consistency Determination's referenced "Coastal Zone Management Plan prohibitions on the discharge of silty materials to certain areas, as well as activities that potentially alter protected biological resources" are not provided or cited;
- b. No discussion of the potential to alter protected biological resources is offered or referenced;
- c. No evidence is provided regarding failure of the original permit's 1,000 meter prohibition to provide adequate environmental protections;
- d. EPA 's lack of knowledge regarding planned oil and gas activities within the subject areas is irrelevant, and is not an appropriate basis for expansion of the "no discharge" zone.
- e. EPA 's opinion regarding the "need" for oil and gas facilities within the expanded "no discharge" zone is irrelevant and inappropriate.

State waters extend three miles or 4.828 meters from the coastline. Prohibition of all discharges within 4,000 meters of these many natural features and special areas is excessively restrictive upon the state's management of its waters, and of its oil and gas activities. Further, such restriction is not warranted to achieve consistency with the ACMP.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-130.002

The State strongly objects to this unwarranted expansion of a "no discharge" zone within the state waters of Cook Inlet for purposes of NPDES general permit coverage.

2) The Fact Sheet includes two maps, "Figure 1: Existing Permit's Area of Coverage," and "Figure 2: Proposed Area of Coverage." On both maps, diagonal cross-hatching on a white background covers the same general area, the entire upper inlet southward to an east-west line just below Kalgin Island. The legend for this cross-hatched area differs between the two maps, as follows:

Figure 1 (Existing Permit) Cross-hatch:

"Expired permit authorized discharges from new exploration facilities and existing development and production facilities"

Figure 2 (Proposed Permit) Cross-hatch:

"General permit will authorize discharges from exploration facilities and existing development and production facilities"

Division Comment: Why has the word "new" been omitted from the proposed permit crosshatch legend? Is it EPA 's intention to state that no new development and production facilities may be covered by the permit within the cross-hatch area? The Division does not concur with an outright prohibition on all new development and production facilities in the cross-hatch area.

Response

Please reference the following in the Response to Comment Document:

Response # 11

Response # 120

Response # 3

Response to Public Comments Submitted By:

Author Name: Shane Walker

Organization: N/A

Comment ID CI-390.001

Hello, I'm Shane Walker. I live in Anchorage. I'd like to clarify that I'm here on my own accord and as a citizen of the municipality of Anchorage, that I work for the Alaska Department of Natural Resources Office of Project Management and Permitting, and I specifically am a project review coordinator for oil and gas activities under the Alaska Coastal Management Program. And I am participating in the review of this permit in consistency with ACMP therefore my comments are only construed toward the EPA's EA and permit and ADEC's 401 Cert.

Response

Thank you for your comment.

Comment ID CI-390.002

For the environmental assessment, it's my opinion that it's fairly nearly scoped, defined and assessed given the facts and information that have been gathered over the past two decades approximately on the Cook Inlet. The alternatives, I believe, only four alternatives are fairly narrow in that the primary alternative is the main objection of the permit with only one alteration, alternative 2, and a few other changes with alternative 3. The scope of the alternatives appear to be fairly narrow which limits the argument to potential alternatives within the assessment.

I'd like to address cumulative impacts. Given the information we have of Cook Inlet scientifically, traditionally, we are able to begin to identify patterns within activities of Cook Inlet. I do not see that the EA has adequately addressed cumulative impacts. This permit itself has a long history here, and we should be able to start seeing trends, and I would like to see the EA to address these trends that can assist in identifying cumulative impacts.

Secondly socioeconomic impacts. Commercial fishing has always been a key industry within the Cook Inlet and will continue to be a key industry, and I would like the environmental assessment to identify potential impacts to commercial fishing and its associated marks with the new wild salmon marketing and such.

Response

NEPA analyses are driven by (and limited to) the proposed action and alternatives being considered. In this case, reissuance of the general permit, the alternatives were constrained by a number of issues that include regulatory requirements for the oil and gas industry, the areal extent of the lease areas within Cook Inlet, the nature of oil and gas industry operations, and the constituents of the discharges from both existing and new facilities.

EPA is unaware of documented trends within Cook Inlet outside of some of the information that was provided through the TEK process. This information about changes to subsistence resources is strictly anecdotal and does not provide the basis of a cumulative impacts analysis. The cumulative impacts analysis has been clarified to indicate that no additional projects have been considered reasonably foreseeable at this time.

The EA addresses commercial fishing in sections 3.7.3 and 4.7.

Comment ID CI-390.003

Specifically for the permit, I believe it's becoming too large and cumbersome. It's becoming quite the permit to follow from time to time, and that's the possibility of separating it into two permits is a possibility for an upper Cook Inlet permit and a lower Cook Inlet permit, based upon the Cook Inlet's geography, not ecological distinctions.

Response

Please reference the following in the Response to Comment Document:

Response # 35

Comment ID CI-390.004

For ADEC's 401 Certification I would like to see further explanation and justification of the models being used within identifying the parameters. I'd also like to see a history of the non-compliance record and how it's weighed in and included within the certification.

Response

Thank you for your comment, please see ADEC's Response to Comment Document.

In addition, please reference the following in the Response to Comment Document:

Response # 38

Comment ID CI-390.005

Lastly, I have a few requests. I would also like to request a 45-day comment extension for the review of this permit. I would also request an explanation and justification of how non-compliance history on the oil and gas industry in Cook Inlet is weighed in and included in the environmental assessment and the permit as well.

Thirdly, I'd like to request an explanation and justification on how and why sources of non-compliance are issued the new permit, as has been done in the past. I believe that's it, thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 236

Response to Public Comments Submitted By:

Author Name: Colletta Walker

Organization: N/A

Comment ID CI-530.001

I'm Colletta Walker. I have a bed and breakfast in the tourism industry here in Homer.

It just dawned on me that talking of all the discharge and what we have going on in the Upper Cook Inlet, you wanted to increase that by four times, I think one of you said earlier, on this new regulation or new contract. And then you want to bring it down into the lower Cook Inlet into almost to the Barren Islands there. And I can't see that that would be anything good as a matter of fact for Kachemak Bay and Homer area.

I believe it was in '98 we were on a tour in Kachemak Bay listening to an oceanographer and a biologist on the exceptionalness of Kachemak Bay, and that it was pristine. And the oceanographer and biologist told us that it was the last one of its kind on this Earth that have cold water plates, because of the phytoplankton that it produces, because the uniqueness of the ecosystem and the richness of the nutrients for the wildlife.

And he was telling us that the opening of Kachemak Bay there along Cook Inlet, that it works like a washing machine and it swirls nutrients, or in the case if we let this go on contamination, into Kachemak Bay. So in that respect it would literally destroy Kachemak Bay.

Response

The general permit prohibits discharges within 4,000 meters of sensitive areas, which includes Kachemak Bay. Please refer to Section I.A.C of the permit for more information regarding the Prohibited Areas of Discharge.

In addition, please reference the following in the Response to Comment Document:

Response # 3

Response # 33

Response # 37

Comment ID CI-530.002

And I was raised in Texas with natural gas and oil. I've driven Suburbans as fast as they could go down the highways of Texas, and I've moved to Alaska years ago, and so I'm not against oil and gas. I think there is a right way and a wrong way to do something. But when I found out we're the only body of water in the United States where they are allowing the contaminations to go out there freely and not to be pumped down into the ocean floor, I'm going, so what's with that?

Response

Please reference the following in the Response to Comment Document:

Response # 1

Comment ID CI-530.003

I know it's not for a lack of money, because we know that the oil and gas industry makes money. Money should not be the God of what pushes us all to have a yea or nay towards our environment. The environment was here before man arrived, and it will be here long after man is gone, but we shouldn't help to destroy it and mankind and the natural resources or the wildlife with it.

So my only thought would be that the reason they don't want to spend the extra money up here is because, hey, there is only 600,000 people to our state. We're so far removed from the rest of the United States, we're kind of like a stepchild anyway, and many Alaskans will tell you that. The Lower 48 in many respects doesn't constitute that we are a part of the United States.

Response

Thank you for your comment.

Comment ID CI-530.004

I think it would be a crying shame to allow an atrocity to keep going, much less multiply four times, or to let it extend to a greater area. When we have something that's bad already going on, why would we want to multiply it.

People in the other parts of the world don't consider the life that Alaskans move here to have. The unique beauty, the ecosystem, to enjoyment of the wildlife and the pristineness, the tourists that come in for the tourism to go out here and fish in Kachemak Bay and Cook Inlet and to go down to the Barren Islands, they want the adventure to see raw, natural beauty. And I know people from Washington state also enjoy that. They don't want to come and see a bunch of oil derricks out there, they don't want to see the sludge and stuff line the coastal lines.

I understand some of this area in this pink zone here that maybe they would go off into our reserve where the bears are, the Katmai, to have operations come in from that side of the Cook Inlet. I don't want anything to disturb our natural habitat for the bear, it's the last place on the Earth that they are.

Response

Thank you for your comment.

Comment ID CI-530.005

Money is not the issue here, it's whether they want to spend a little bit when they can get by with nothing. If I can find a bargain at a store for an expensive pair of shoes, you bet, I want to pay for the bargain, I don't want to pay the full price, and that's what I see with the natural oil and gas industry. If they can get something for nothing, why not.

I know that our country is the gas and oil hogs of the world, but we don't have to destroy the world in order to have it.

Response

Thank you for your comment.

Comment ID CI-530.006

I hope that you will take into consideration that I don't think there was enough advertisement on this meeting tonight. There are people with a conflict of the other meeting that's going on with the oil spill meeting. There is a lot of fishermen that would be here tonight that would strongly oppose this to grow, much less not to have the resources to pump this toxic waste back into the ocean floor. And I hope you would reconsider opening these meetings again and give appropriate time.

In reality, even if you're going to have a Tupperware party, you call and you write everyone about three weeks ahead, and then the week of you call and write them again to let them know, and then you get a list. So we would appreciate at least the same consideration as if we were going to have a party. Thank you.

Response

Please reference the following in the Response to Comment Document:

Response # 90

Response to Public Comments Submitted By:

Author Name: Robert Warthen

Organization: Escopeta Oil

Comment ID CI-150.001

1. Overall Permitting Approach: Curtailing New Exploration/Production in Cook Inlet based on NGO Input without justification.

Escopeta is mobilizing a jackup drill rig to begin a 4-year exploration program in Cook Inlet. In our review of the permit, we have found a definite onerous slant towards a “no new exploration or development view.” In fact, we have found several instances where comments/recommendations from non-governmental organizations (NGOs) with a similar agenda were inserted without technical, regulatory, or environmental basis (see specific comments below).

Response

Please reference the following in the Response to Comment Document:

Response # 26

Comment ID CI-150.002

2. Overall Permitting Approach: Based on Gulf of Mexico.

While Escopeta’s corporate office is in Houston, Texas, Alaskans who have worked and recreated in Cook Inlet for more than 40 years staff our Alaska division. Quite bluntly, the EPA permit writer’s approach of using Gulf of Mexico conditions and discharge permit as a “template” does not take into consideration the unique qualities of the Gulf of Alaska where discharge results in no or negligible harm.

Response

Please reference the following in the Response to Comment Document:

Response # 27

Comment ID CI-150.003

3. Overall Permit: Poor Organization and Usefulness.

Based on years of experience in our industry, we have found that the best plans and permits are those that are well-organized, and easy to reference and use. This permit is not well organized, and will not be easily used or referenced by our operations personnel. Overall, the permit is long, complex, and redundant. It seems to miss the idea of having a clear and concise permit that is readable and understandable to facility personnel that must comply with it. As written, an environmental lawyer will have to be consulted for each potential task, meaning he/she would literally have to be a “hand” on the rig to decipher and translate the codes and shorthand used within the permit.

Response

Thank you for your comment.

Comment ID CI-150.004

4. Draft Condition I.C.3.b.

This condition prohibits discharging within 4000 meters of a coastal marsh, river delta, river mouth, designated as Area Meriting Special Attention, State Game Refuge, State Game Sanctuary, Critical Habitat Area, or National Park.

Comment on Draft Condition I.C.3.b.

EPA has poorly defined coastal marsh, river delta, and river mouth such that facilities cannot clearly delineate these prohibited sensitive areas, and differentiate them from shoreline that is not classified as such. It is important to note that as part of the Alaska Coastal Management Program review, the State already has considered risks to such sensitive areas and its careful, thorough assessment is reflected in what tracts are offered as part of the State oil and gas lease program. Therefore, EPA has increased the prohibited discharge distance while having no technical, environmental, or regulatory basis; and has infringed upon State authorities.

Recommendation.

Revise the prohibited distance threshold from 4000 meters to 1000 meters to be consistent with the expired general permit for Cook Inlet. Based on discussions with EPA during the public meetings, EPA stated that there was no technical, regulatory, or environmental basis for arbitrarily making this condition more stringent. EPA further stated that facilities could easily use directional drilling from outside of prohibited areas to reach areas within the prohibited area. However, EPA did not base this statement on facts and best available direction drilling technology. Direction drilling is not effective with shallow and narrow subsurface structures and formations present in Cook Inlet. In addition, it increases the extraction of muds and cutting, and does not enable an accurate analysis of the exploration testing formation.

Response

Please reference the following in the Response to Comment Document:

Response # 3

Comment ID CI-150.005

5. Draft Conditions I.F.2 and II.B.4.b.

Condition I.F.2 requires facilities to file an End of Well Report within 7 days of ceasing drilling operations. Condition II.B.4.b requires facilities to file an End of Well Report within 90 days of well completion.

Comment on Draft Condition I.F.2 and II.B.4.b.

The two requirements are contradicting.

Recommendation.

Correct these contradicting conditions. An End of Well Report requires specific information that is not collected until both drilling and testing ceases. Therefore, EPA delete the End of Well Report required within 7 days after ceasing drilling as in Condition I.F.2, and rely on the End of Well Report submitted within 90 days of completion which would be after well drilling and testing when data is available.

Response

Please reference the following in the Response to Comment Document:

Response # 28

Comment ID CI-150.006

6. Draft Condition II.B.5.b.

This condition requires an Environmental Monitoring Study for new exploratory facilities, to be conducted before and during drilling mud disposal and up to at least one year after drilling operations cease.

Comments on Draft Conditions II.B.5.b.

EPA presented no technical, regulatory, or environmental basis for making this condition more stringent than that posted in the expired general permit for Cook Inlet. Again, as stated above, EPA presented no technical, regulatory, or environmental basis for making this condition more stringent. EPA further stated that no exploration facilities fell under this requirement during the expired general permit term and would not create problems with increasing the monitoring requirement for all exploration. It seems that EPA is requiring a study to get information with no means to an end. Exploration generally lasts for only a few months with no environmental impacts. A year-long monitoring study at each exploration site is onerous, costly, unnecessary and without any technical, regulatory, or environmental basis.

Recommendation.

Revise the requirement to conduct an Environmental Monitoring Study, such that it is applicable only to facilities that are within 4000 meters of a sensitive area (i.e., with prohibited discharges within 1000 meters of a sensitive area as stated in Comment 1 and Condition I.C.3.b) to be consistent with the expired general permit for Cook Inlet.

Response

Please reference the following in the Response to Comment Document:

Response # 14

Response # 158

Comment ID CI-150.007

7. Draft Condition II.F.4.

This condition requires that facilities located with Coastal Waters apply for a mixing zone with Alaska Department of Environmental Conservation (ADEC) for the Whole Effluent Toxicity testing. The dilution factor calculated at the edge of the mixing zone is the Whole Effluent Toxicity limit.

Comment on Draft Conditions II.F.4.

This requirement is vague, does not set out the applicable procedures, and will end up causing project delays.

Recommendation.

Work with the ADEC to come up with a generic mixing zone and whole effluent toxicity limits for new exploration facilities in Coastal Waters similar to those in Tables 6-A and 6-B for facilities in Terrestrial Seas and Outer Continental Shelf. According to the ADEC, they are considering this approach by accepting a 100-meter generic mixing zone. New exploration facilities could still apply for a mixing zone specific to their operation, but operation wouldn't be halted by the wait for the ADEC approval. If this is not possible, can EPA assure that ADEC will approve of a mixing zone within the 30-day wait period between applying for permit coverage by submitting the NOI and being covered by the permit? In addition, can EPA expand the permit and provide procedures for how to get a facility-specific mixing zone and whole effluent toxicity limits from the ADEC (e.g., such as a new form or updating the NOI form to add elements required for ADEC including fees, data needed, etc.).

Response

Please reference the following in the Response to Comment Document:

Response # 180

Response # 189

Comment ID CI-150.008

8. Draft Condition VI.

This condition requires development of a Drilling Fluid Plan for the formulation and control of drilling fluid/additive systems at each well. At a minimum, the plan shall include drilling fluid types, drilling fluid uses, discharge concentrations, how to comply with toxicity limits, responsible parties, etc.

Comment on Draft Condition VI.

This plan is redundant, burdensome and was rejected during issuance of the expired general permit for Cook Inlet.

Recommendation.

Remove this requirement once again to be consistent with EPA's past justifications for removal from the expired general permit for Cook Inlet. EPA stated that the plan requirement was redundant and not necessary for compliance.

Response

Please reference the following in the Response to Comment Document:

Response # 29

Response to Public Comments Submitted By:

Author Name: Andrew Weller

Organization: N/A

Comment ID CI-360.001

I am writing to voice my disapproval of the reissuance of a discharge permit for wastewater associated with oil and gas development in Cook Inlet. I am a drilling mud consulting engineer who lives in Homer, Alaska on Kachemack Bay. My oilfield career has been entirely on Alaska's North Slope. The land based operations on the North Slope require that all fluids be disposed of properly. Fluids that have not been downhole including boiler blowdown and washwater are sent to a Class I injection well where they are disposed of unless they are beneficially reused in a mud system. Fluids that have been downhole such as drilling mud and other fluids that are beneficially reused in the drilling mud are sent to a Class II injection well for disposal. I do not see why Cook Inlet leases are not held to the same standard, especially knowing how fragile the Cook Inlet ecosystem is and the number of people who rely on it for fishing and tourism businesses.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-360.002

Our state has given large oil companies many breaks on royalties in order to entice development. The federal government does not need to participate in the backscratching scenario also. Oil company revenues are plenty high enough to authorize a zero discharge policy.

Response

Please reference the following in the Response to Comment Document:

Response # 6

Comment ID CI-360.003

I am also concerned about the permitting of discharge of wastes associated with synthetic drilling muds. That seems vague to me.

Response

Please reference the following in the Response to Comment Document:

Response # 85

Comment ID CI-360.004

Please issue a zero discharge policy for oil and gas development in Cook Inlet

Response

Please reference the following in the Response to Comment Document:

Response # 6

Response to Public Comments Submitted By:

Author Name: Roy Wells

Organization: Kenai Chamber of Commerce

Comment ID CI-590.001

My name is Roy Wells, I live in Kenai, Alaska. I'm happy today to speak on behalf of the Kenai Chamber to basically state our position on -- first on extending the permit comment period until June 15th, 2006.

You know, the Kenai Chamber of Commerce is a non-profit association of business people who protect and promote business interests. We have nearly 370 members and include oil and gas operators and support industries conducting operations in Cook Inlet. The oil and gas industry in our area provides jobs for nearly 1500 people directly affecting over a third of our population. And not only do they provide those jobs, but the cycle of concentration of dollars through the community is almost immeasurable.

The notice of the proposed permit was published on February 28th and has over 700 pages. This has provided a little over 30 days to examine this document. We request additional time be given to consider the various details of the permit and its effect on the oil and gas industry in Cook Inlet.

We would like to ensure that oil and gas production and exploration can continue in Cook Inlet, and we believe the oil and gas production can continue in Cook Inlet without causing harm to the environment affecting other valuable resources, including our fishing industry.

Response

Thank you for your comment.

Comment ID CI-590.002

Our fisherman are part of the greater chamber of commerce, and I believe both industries can coexist. I think there are safeguards that are being put forth in past permits and plus future permits to allow that to happen.

There is always these issues that come about when new National Pollutant Discharge Elimination System permits are issued. I have worked with those permits in my 30 year career working in the oil industry, so I do come here with not just an outside view, but an inside view of the industry.

I'm an environmentalist, and that may shock some folks, because I do care about our environment, I do. As I said before, the industries need to co-exist, they need to find ways to exist instead of pointing darts and trying to put so many strings attached to a particular industry that it hampers and almost makes it impossible to run their business.

Some entities, like the National Resources Defense Councils and others have a hidden agenda, I believe, to make permits so onerous that it makes it extremely difficult to manage and therefore causes a lot of different things to happen so that these permits can be exceeded. I think having a good permit, something that makes sense, something that has scientific fact behind it is an incredible tool to be a gauge for the industry. And I believe we have done that in the past, and I believe that we'll continue to do it, do that in the future. Combined with the EPA and with the resources of the industry and also the population that will be affected, all these entities together can help ensure that we have a good permit. But it does not need to be one that cannot be effectively obtained.

And that is my concern, that we have something that's manageable. That is a concern of the Chamber of Commerce. And there is -- and hopefully that's the concern of rational folks in the industry, in the industry and also the public at large. So with that I'd like to submit a letter to the Watershed Forum that we drafted from the Chamber, and I'll give that to you, and I appreciate the opportunity to talk today.

Response

Thank you for your comment.

Response to Public Comments Submitted By:

Author Name: Betty Whittenberg

Organization: N/A

Comment ID CI-560.001

Hi, my name is Betty Whittenberg, I live in Soldotna, Alaska. I have a rough draft, I hope it's not too rough.

The 1996 technology-based effluent guide that was promulgated by EPA required zero discharge of produced water and muds and cuttings from production waste in all coastal waters except in Cook Inlet.

EPA rejected zero discharge for cuttings and muds in Cook Inlet because there was a lack of grinding technology for cuttings in Cook Inlet. There is no lack of the technology, just that the oil industry in Cook Inlet has so far had no financial incentive to set up this technology and use it.

EPA rejected zero discharge for produced water in Cook Inlet because it is not economically feasible in Cook Inlet. With record breaking profits in the last few years for the oil industry, this is a laughable exemption.

EPA and Congress also continues to exempt oil production waste -- they exempted oil production waste in 1985 from hazardous waste regulation because of the economic hardship that those regulations would pose for the entire industry and because of the great volume of production waste. I've been following this for quite a while and fighting this for quite a while.

Response

Please reference the following in the Response to Comment Document:

Response # 1

Response # 6

Response # 88

Comment ID CI-560.002

Now 21 years later EPA must also write regulations to protect the economic, environmental, and future jobs of the shareholders of the people who live, fish, and subsist near and in Cook Inlet, and that is the residents of the Kenai Peninsula.

Corporations of course are only doing their job when they look at the bottom line for their profits and their shareholders; I don't expect anything less than that. That's all you can expect from a corporation.

EPA has a job to protect our bottom line for the right to renewable resources and health. We have been held hostage time and again by the corporate oil policy of not putting money into waste disposal or recycling. Our other resources of fisheries, subsistence life-style and tourism are slowly being eroded and compromised because, in effect, this is our cost for the oil industry giving us jobs.

If we oppose new technology, pollute -- if we require a new technology, if we oppose pollutant discharge mixing zones and free dumping of oil waste into our Inlet, then the oil industry always tells us they will pack up their jobs and leave. After reading the fact sheet for the Cook Inlet permit, I'm cautiously optimistic at some of the additions to the permit. I say cautiously because I marvel at the behind-the-scene changes that occur at public comment. They are not behind the scenes, you can go and look at them, but it seems like people don't look at the comments that come up.

Response

Thank you for your comment.

Comment ID CI-560.003

And some of the changes were very disturbing. One that I found was the oil industry's request in 1995 during the public comment period for EPA to allow treated contaminated groundwater from Marathon to be allowed into the processed water settlement ponds. These ponds already contain heavy organics as well as other hazardous chemicals that are not tested due to the production waste exemption by Congress from the hazardous waste regulation list.

This may have been a great solution for the industry's contaminated groundwater expense, but EPA in effect is allowing non-produced water waste to now share the same regulation exemptions that produced water had, and this is a disturbing trend.

When I looked at some of the other requests, that they be allowed to put in their landfill leach paint chips to be included in processed water discharge into Cook Inlet, I mean, we're opening the door here when we allow other waste streams to go into process production waste.

Processed waters are not conventional waste, they would be labeled as hazardous without this exemption from Congress. Dr. Gary Iceman (ph), an expert on hazardous waste, which I've testified about before but I still find his comments very relevant, sometimes he's consulted by EPA permit writers. He said processed waters are not brine or saltwater, and anyone who says that is not dealing in chemical reality. He's performed many chemical analyses on produced water in Louisiana and other states, and says that produced water is the single most chemically complex substance I've encountered. It's often highly toxic and a hazardous mix of chemical compounds.

EPA's own study in 1985 when they were re-looking at whether we should label these waste hazardous found considerable quantities of organic priority pollutants, including benzene, which is cancer causing; ethyl benzene; toluene; phenol; naphthalene, which is a PAH, which is polynuclear aromatic hydrocarbon that doesn't evaporate into the air from settling ponds that many studies have found is in our sediments and is affecting sediment health; as well as metallic priority pollutants, such as chromium, lead, nickel, zinc, were almost universally present in produced water.

And fish and wildlife scientists in Louisiana state that produced water discharge into Louisiana marshes, and granted that is a marsh, reduced fisheries productivity and caused chronic long-term toxicity to fish and wildlife.

And Alaska oil and gas, in their comments, public comments, they themselves said they didn't want to test bivalves as they were so sensitive to the produced water toxicity. Well, that doesn't show me that's an innocuous waste that we're dumping out there.

Let's see, Louisiana University found pods in oysters near discharge points for produced water were three times higher than normal levels. There were biological dead zones near produced water discharge and contamination in sediments. And we have large volumes of processed water coming from onshore treatment plants as well as our platforms. And the State allowing mixing zones, which are large and sometimes continuous where pollutant standards of our own state can be exceeded, is very disturbing and has been for quite some time.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 88

Comment ID CI-560.004

EPA is trying to address this by -- not by making the mixing zones smaller, but by adding diffusers -- am I up?

I'd like to finish this sentence on the diffuser. And that is it was tried before. It was clogged up and the plant took it off and nobody checked to see if it was still left on there. So diffusers are not always the answer to smaller mixing zones, but I would like to continue later.

Response

Please reference the following in the Response to Comment Document:

Response # 18

Response to Public Comments Submitted By:

Author Name: Betty Whittenberg

Organization: N/A

Comment ID CI-561.001

I'll keep this brief, I won't read the whole commentary. I guess I would like to say too that I am a life long member of this community. I've lived in Alaska for 44 of my 49 years. I intend to stay in Alaska. I'm not against industry, I certainly think we need the jobs. I do think it's a privilege for them to dump for free in our Inlet, and I do think we have to have regulations that are stringent enough that don't destroy our other resources. Because when the oil industry leaves, and they will some day leave, we have to have some other resources, and so I guess that's what I'd like to say about that. I don't want to be labeled environmentalist, I'm an Alaskan and I believe in protecting all of Alaska's resources.

Response

Please reference the following in the Response to Comment Document:

Response # 83

Response # 89

Comment ID CI-561.002

The one thing I would like to speak on is the tides in Cook Inlet. We always hear about the high tides, and yes, we have some of the world's highest tides in Cook Inlet. Dr. Hermati (ph) from NOAA, when I interviewed him back in the '90s, he said the tidal currents make up 80 percent of the currents in Cook Inlet, and that is an 8 knot current, but that's the current that sloshes back and forth, it does not move water out or pollutants out or move nutrients out, that would be the net current which is the other 20 percent, and that's only 1.5 of the net current that is actually going to be cleansing our Inlet, flushing our Inlet, which is not being flushed. It's like a slow little drain, and most of the drain is going into our sediments.

Response

Thank you for your comment.

Comment ID CI-561.003

And so that's what I wanted to say that was positive for this permit that I'm very excited about, and I hope that we can see this happen and keep it in the final draft, is that EPA is finally addressing the need for the study of the water column and the sediments near the produced water outfalls. And that is so important because I think so many of our studies have been done far away. It's like me dropping a ring on the kitchen floor and looking out in the driveway because it might have been brushed way out there instead of looking first where I dropped it. And where we drop it is -- right where we drop that waste is right out of the outflow pipes and right in the mixing zone areas and right near the platforms, and that's where the studies have not concentrated, and one has to wonder why.

And even CIRCAC, when the oil and gas association said that CIRCAC had already done studies and didn't find anything, CIRCAC came back and said they appreciate the confidence from the oil industry in their studies, but these were preliminary studies that can't be considered conclusive. And they have asked for money from our state and asked for grants to do further studies and it's not been forthcoming.

Response

Please reference the following in the Response to Comment Document:

Response # 2

Response # 5

Comment ID CI-561.004

And so I think we really need to put some money into studying what's going on in our Inlet to protect our fisheries and our Beluga whale population. Might be global warming. It's not from the Native take, but it's declining. It's under 300, and we're still not in an endangered species list. That has to be because once it's on an endangered species list we have to look at what's going out into the Inlet, so I think there are some politics there.

Response

Please reference the following in the Response to Comment Document:

Response # 5

Response # 96

Comment ID CI-561.005

And like I said, I'm a shareholder of my community's Cook Inlet, that is our resource that will be there long after the oil industry is gone, and the oil industry understands the bottom line. But our bottom line is the health and welfare of Cook Inlet, and the EPA is there to look out for us as well as industry, and look out for our economic well-being as well as our environmental well-being, and so I guess that's what I had to say. Thank you so much.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response to Public Comments Submitted By:

Author Name: Betty Whittenberg

Organization: N/A

Comment ID CI-562.001

I am writing to comment on the re-issuance of the Cook Inlet General Permit (AKG-3 1-5000) and the expansion of drilling rigs into lower Cook Inlet. The Clean Water Act of 1977 states that "It is the national goal that the discharge of pollutants into navigable waters be eliminated by 1985" and that "Wherever attainable an interim goal of water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983." The mixing zones that our State allow to circumvent its stringent water quality regulations negate this goal and EPA has failed to require new technology to lesson the amounts of pollutants in NPDES permits. EPA's testing of fish in Cook Inlet has found four contaminants related to oil wastes that exceed levels considered safe for human health. Your own studies are showing that yes the oil industrys free dumping of oil wastes into our valuable fishery is taking a toll on our water quality. In 1987 I testified at an Anchorage EPA hearing on the need for a reclassification of oil production wastes. Many Kenai residents whose water quality had been affected by oil drilling mud pits testified that these wastes were not 'special' wastes to our water supplies. We asked EPA to reclassify oil production wastes as the hazardous wastes they are instead of the exempted waste category that Congress created to save the oil industry money. EPA decided that because of the great volume of oil production wastes it would pose an economic hardship on the oil industry to erase the exemption at that time.

I am saddened that nearly 20 years later so little has changed in the protection of our waters and fishing in Cook Inlet. If dumping production wastes in coastal waters were a science experiment Cook Inlet would be considered the control group where nothing is done to save it while the cure of zero discharge is used in all other coastal waters nationwide. EPA continues to grandfather in old outdated methods of dumping process water and water based drill cuttings. EPA rejected requiring technology of cutting and grinding drill cuttings and reinjecting the wastes in Cook Inlet because the technology is not available in Cook Inlet. They reject zero discharge on old platforms in Cook Inlet because it is not economically achievable.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 6

Response # 88

Comment ID CI-562.002

When the oil industry cant meet the State or Federal clean water standards EPA doesn't make industry comply by using better technology. Instead the State of Alaska allows mixing zones where the State water quality standards can be exceeded. And the new permit expands the mixing zone to 100 meters so that industry can meet the standard after the pollutant disperses (spreads) to the rest of our fishery. Fish swimming through an outfall or near a platform cant avoid mixing zones, especially if they overlap

Response

Please reference the following in the Response to Comment Document:

Response # 61

Comment ID CI-562.003

While it is good that EPA is not allowing new sources in the expanded area to discharge production wastes such as produced water, drill cuttings or drilling fluids, I am concerned at the mention of a possibility of discharge at a later date if the platform files for a individual permit. I also disagree with EPA considering the dumping of Synthetic based drill cutting disposal during exploration in territorial seas and federal waters. EPA's own 1999 environmental assessment report on the effects of synthetic based drill cutting dispersal into the marine environment shows that fluids that adhere to the cuttings do not disperse in the water column. They are not soluble in water and tend to sink to the sediment and cause "initial smothering of the benthic community followed by "oxygen depletion due to the biodegradation of the discharged synthetic base fluids." resulting in "anoxic conditions in the sediment." EPA's 1999 report also states that " all synthetic fluids have high theoretical oxygen demands and " have oleaginous material that may contain priority pollutants such as polynuclear aromatic hydrocarbons (PAHS). Barite is also present in these drill cuttings and is "know to generally have trace contaminants of several toxic heavy metals such as mercury, cadmium, arsenic, chromium, copper, lead, nickel, and zinc." (Pg.3-6)

Response

Please reference the following in the Response to Comment Document:

Response # 85

Comment ID CI-562.004

Zero discharge in the lower inlet is crucial as fish in these areas are more abundant and commercial fishing for our 'Alaska Wild' brand of fish would be negatively affected by just the perception of any pollutants allowed in this fishing area. If EPA is taking into account the prohibitive costs of their regulations to the oil industry as they write new regulations then surely they must also take into account the prohibitive costs to our Sport, and Commercial fishing and the negative perception created on our Alaska Wild Salmon brand to consumers of Cook Inlet Salmon. With farmed salmon consumption taking a market hit because of testing that showed unacceptable levels of pollutants that affects human health, wild salmon consumption has increased.

Sport fishing on the Kenai brings in tourism and recreational fishers from Anchorage to our community. According to a new report by the Kenai River Sport Fishing Association titled "Economic Values of Sport, Personal Use, and Commercial Salmon Fishing in Upper cook Inlet" May 2006, "Sport and personal use fishing in Southcentral Alaska generate direct spending of \$4 15 million (2003 dollars) and total sales of \$532 million that support some 6,100 full time equivalent jobs that produce \$171 million in income."(pg.iv) "recreational salmon fishing in Upper cook Inlet generates direct spending of \$246 million(2003) and \$290 million in total sales that support 3,400 average annual jobs producing \$95 million in income." According to this same report ex vessel commercial catch values for salmon in Upper Cook Inlet average 13.6 million annually from 1999-2004. (Pg.iv.)

Response

Please reference the following in the Response to Comment Document:

Response # 95

Comment ID CI-562.005

Ocean Discharge Criteria has a broad scope that allows EPA to monitor air, water, sediment health and benthic health. I am heartened that this permit utilizes that scope by requiring sediment studies near out falls for production facilities that release over 100,000 gallons of process water per day. I would like to see all the platforms such as Anna, Bruce, and Tyonek Platform A that currently separate process water and dump it to send their process waters to one of the three onshore production facilities. This would condense waste out falls for process water and allow ease of monitoring. PAHs should be monitored in the sediment near all platforms as they are an organic that is not volatile in process water and is not separated out with the oil. PAHs have the potential to bind to sediment and be taken up the food chain to further harm the health of our endangered genetically separate species of Beluga Whales. I applaud the new permit for requiring baseline sediment and water column studies near any new facilities installed after the date of this permit.

Response

Please reference the following in the Response to Comment Document:

Response # 86

Comment ID CI-562.006

EPA should not allow any more exceptions to the waste allowed in settling ponds. Process water and production wastes do not include paint chips, wastewater from oil spills, or any other myriad wastes that the oil industry would like to dump cost free into our inlet. I wonder if EPA is negating the exemption of production wastes from classification as a hazardous waste by allowing non production wastes into settling ponds. A hazardous waste can not become a exempted waste just because industry asks to mix it with exempted wastes.

Response

Please reference the following in the Response to Comment Document:

Response # 88

Comment ID CI-562.007

I am worried for the health of our Inlet, preliminary studies done by CIRCAC were not done in the area of waste out falls, tidal rips, or sediments near platforms. Pollutants found in fish in Cook Inlet by EPA, tumors found on fish by Alaska natives are signs of strain on the eco system. New platforms putting additional pressure on our fishery, and continued free dumping by the oil industry can do nothing but add to the pollutant load of our inlet in the future. Surely there must come a time that we put Cook Inlet's coastal water in the same protected zero discharge category that other States have asked for. We have one of the few productive wild salmon fisheries left in the United States. Does it make sense to save a non renewable resource (that is making record profits) money on their waste stream at the expense to the true riches of our State? Our renewable resources such as clean water and fishing need to be protected now for Alaska's future generation and economy. The 1996 Technology based effluent guide promulgated by EPA required zero discharge of produced water and muds and cuttings from production wastes in all coastal waters, except Cook Inlet. If EPA will incorporate the more stringent guidelines for Cook Inlet that they have already used in the rest of the nations coastal waters, then there is hope for our fishery. If we continue as the control group, the outcome is already known, its just a matter of time before the effects of oil pollution take a permanent toll on our renewable wealth and my community's future.

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 2

Response # 6

Response to Public Comments Submitted By:

Author Name: Anne Wieland

Organization: N/A

Comment ID CI-210.001

I think it is Scandalous that the oil industry is allowed to discharge a variety of toxins into Cook Inlet. There is no such place as "away" anymore. The solution to pollution is NOT dilution. I've been digging razor clams in Cook Inlet since 1963, but in recent years have been increasingly worried about the toxins that I, my children, and grandchildren are accumulating in our tissues from this resource as well as the other ones we enjoy, salmon, beach greens, and occasionally sea algae. I demand that you eliminate ANY discharge into Cook Inlet and treat the byproducts of oil drilling in a way done elsewhere in the country. Do not allow this permit to go ahead!

Response

Please reference the following in the Response to Comment Document:

Response # 17

Response # 6

Response to Public Comments Submitted By:

Author Name: Lon G. Wilson

Organization: The Wilson Agency, LLC

Comment ID CI-280.001

I am writing in support of the renewal of the Cook Inlet General NPDES permit. There is a delicate balance to be struck between the protection of the environment and the extraction of precious energy resources. It is important to create a permit that is environmentally protective yet economically feasible. As the Cook Inlet nears the end of its production life, not creating unnecessary fiscal challenges is vital to keeping the field in production.

Studies in the Cook Inlet have consistently demonstrated little to no environmental degradation in Cook Inlet after 40 years of oil production. The State has acknowledged that because of swift currents, tides, and the mixing capacity of Cook Inlet, discharges, which are already carefully monitored, do not accumulate in the inlet. Judging from the past, it is apparent that increased monitoring in the future is unnecessary.

I feel that renewal of the current permit is in the best interest of Alaska and the local communities. It protects the environment and still allows for continued operation of industry facilities that provide the region with both its energy needs and much of its economic basis.

Thank you for the opportunity to comment on this important issue for Alaska.

Response

Please reference the following in the Response to Comment Document:

Response # 15

Response # 2

Response to Public Comments Submitted By:

Author Name: Daniel Winn

Organization: N/A

Comment ID CI-480.001

Yes, my name is Dan Winn. I've been here in Homer for the last 35 years, I'm a commercial fisherman. I'm not very well prepared at all to speak to you because I didn't know about this until a few hours ago. And then I got here and there really weren't any handouts to even look over.

What did shock me as I looked over what I could at the table was how much is being allowed now. And I thought they couldn't throw cuttings over, years ago. I learned right on through that list, and I thought it was the list of things that they couldn't do; I didn't realize it was a list of things that they could do.

Response

Please reference the following in the Response to Comment Document:

Response # 90

Comment ID CI-480.002

And I've been -- I thought I was pretty much up on it. I've been on boards and commissions for the last 35 years. This idea about mixing zones, that they aren't creating any problem, you have to realize there is no baseline study done before all these things were being dumped, okay. So there is no scientific way that they could say that there is no harm. Without a baseline study it's impossible to decide if there is or if there isn't.

Response

Please reference the following in the Response to Comment Document:

Response # 159

Response # 17

Response # 2

Comment ID CI-480.003

And the thing that I'm really concerned with is the ongoing mystery spills. As a commercial fisherman, any more -- I'm getting a little older so I only drift any more up the Inlet, and there have been mystery spills. And what they are coming from is the pipe that's underneath these platforms.

The pipeline is old, you know, the lady testified about it being 1964. Some of those pipes were laid in mid to late '60s, and they put sleeves in them and have done different things. But those pipes, where they are, there is an undercurrent weakening the ground underneath there, they have to go in there and boost them up, okay, this is the way it's done. But the thing that really gets me is 35 years of corrosion on those pipes, we're going to have a real problem, and it could happen tomorrow, it could happen right now. And that's what I'm really serious, and I am sorry that I can't comment that much on what you're here about because, like I say -- I read the paper every day and I had no idea that this was going to go on. And then without any handouts I can't even try to fast read through the stuff, okay.

So I thank you for coming here, I see some new faces that I haven't seen before. Try to do a good job. Thank you very much.

Response

Thank you for your comment.