RESPONSE TO COMMENTS

TESORO ALASKA PETROLEUM COMPANY

(NPDES Permit No. AK-000084-1)

U.S. Environmental Protection Agency, Region 10
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Seattle, Washington 98101

I. Introduction

A. Public Comment Period

On April 18, 2000, the Environmental Protection Agency, Region 10 (EPA) proposed to reissue the National Pollutant Discharge Elimination System (NPDES) permit for the Tesoro Alaska Petroleum Company refinery in Kenai, Alaska. The comment period on the proposed reissuance began on April 18, 2000, and was scheduled to end on May 18, 2000. In response to two requests from interested parties, EPA extended the closing date for the comment period to June 19, 2000.

During the public comment period, EPA received comment letters from the following entities:

Cook Inlet Keeper[1]
Cook Inlet Regional Citizens Advisory Council
Kenai Peninsula Borough
Native Village of Eklutna
Native Village of Port Graham
Tesoro Alaska Company

B. Endangered Species Act Determinations

After the close of the comment period, EPA consulted with the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (FWS) regarding endangered species in the vicinity of the discharge point. On October 19, 2000, NMFS concurred with EPA's determination that the discharge from the Tesoro refinery will have no effect on Steller sea lions, Fin whales, or Humpback whales. Additionally, NMFS concurred with EPA's determination that the discharge is not likely to adversely affect beluga whale populations of Cook Inlet. On October 28, 2000, FWS concurred with EPA's determination that the discharge will have no effect on the short-tailed albatross. FWS also concurred with EPA's determination that the discharge is not likely to adversely affect Steller eiders. In addition, FWS recommended additional monitoring in the area of the discharge. EPA responds to these recommendations in the section of this document entitled "Monitoring Requirements".

C. Essential Fish Habitat Determinations

[1] Cook Inlet Keeper indicated that its comments were submitted on behalf of Nanwalek IRA Council, Port Graham Village Council, Ninilchik Traditional Council, Chickaloon Village Traditional Council, Alaska Center for the Environment, and Kachemak Bay Conservation Society.

On October 19, 2000, NMFS concurred with EPA's determination that the discharge from the Tesoro refinery is not likely to adversely affect essential fish habitat.

D. State Certification

On March 22, 2001, the State of Alaska issued a 401 certification that the permit complies with Alaska water quality standards and a finding that the permit is consistent with applicable Coastal Zone Management Act provisions. Stipulations of the certification and consistency finding have been incorporated into the final permit.

II. Response to Comments

A. Characterization of Proposed Discharges

Comment #1

EPA Region 10's review and draft permit fail to properly characterize the groundwater remediation effluent outfalls, the relationship of such flows to the main refinery process-related effluent and the treatment this wastewater receives.

Response: In response to this concern, EPA reviewed Tesoro's permit application (submitted in 1995) and mixing zone study (September 1998) and found differences regarding the proposed routing of remediation wastewater. Upon EPA's request, Tesoro has submitted an amended permit application (including a revised flow diagram) that more clearly sets forth the planned routing of flows. This application indicates that a fraction of the remediation effluent will be discharged to the treatment system upstream of the biological contactors (see below regarding the reason for this plan). The remaining fraction will be discharged to the outfall at a point downstream from the treatment system.

Since both refinery wastewater and remediation wastewater have been sampled separately, the updated application materials have not changed the validity of the water quality analysis performed in the development of the draft permit.

Comment #2

Discharge of significantly increased amounts of remediation wastewater under an alternate operating scenario through the secondary treatment system may trigger secondary treatment efficacy concerns. Alternatively, if Tesoro chooses to direct all remediation wastewater to Cook Inlet directly, this may adversely affect acute and chronic toxicity of the 001A discharge.

Response: See above regarding proposed locations of remediation wastewater discharge. Tesoro has indicated to EPA that its discharge of a fraction of the remediation waste stream into the refinery wastewater system will improve the performance of the biological treatment process (by reducing the temperature of the wastewater to a more optimal condition for the biotic medium). In any case, EPA is required to develop permit conditions that reflect the technology and water quality requirements for this facility. The design and operation of the treatment system to achieve effluent limitations is the responsibility of the permittee.

Regarding toxicity, EPA has reviewed the extensive toxicity test data for the 001A discharge (absent the remediation effluent) and has found no reasonable potential to exceed the Alaska water quality standards for toxicity. Tesoro has conducted a single test of the remediation effluent, and this test also indicated no reasonable potential to exceed standards with respect to acute or chronic toxicity. Nevertheless, given the lack of toxicity data for the combined discharge, EPA has increased the chronic testing frequency in the draft permit to semi-annual testing.

Comment #3

Some stormwater generated at various locations on site does not receive treatment. Tesoro must obtain a stormwater discharge permit pursuant to 40 CFR 122.26(a) and 122.26(b)(14).

Neither Tesoro's 1995 application nor their 1999 amendment addressed all stormwater outfalls present at the Tesoro site. EPA may not issue this permit until Tesoro submits a complete application that includes all stormwater outfalls.

Response: EPA disagrees that the permit cannot be issued at this time. This permit authorizes the discharge of only those waste streams identified in the permit application. Tesoro's application indicates that stormwater from the process area will be routed to the wastewater treatement system and included in the discharge to Cook Inlet. The application does not list any other stormwater discharges.

While EPA is not aware of any stormwater discharges that have a potential to impact water quality in the vicinity of the facility, EPA agrees that Tesoro is required to obtain an NPDES permit for stormwater discharges not covered under this permit. Tesoro is eligible for coverage under the EPA's multi-sector general permit for stormwater discharges associated with industrial activity in Alaska.

B. Technology-based Permit Requirements

Comment #1

Commentors object to EPA's block process method for setting technology-based effluent limitations because this method ignores demonstrated treatment capabilities of Tesoro's system, undermines the original BPJ determination and circumvents the prohibition against backsliding.

EPA should assume that effluent control equipment that was evaluated and permitted as part of the prior 1984 BPJ determination will control additional effluent from production increases and new production units with the same or similar levels of treatment efficiency on a pound of pollution removed per barrel of production input basis.

Response: EPA disagrees that the method used to calculate the technology-based effluent limits is inappropriate. The proposed permit carries the 1991 permitting approach forward, with adjustments based on current production levels and new refining processes installed since the issuance of the 1991 permit. The objections in this comment do not focus on the technical adjustments EPA has made to the limits calculations for the 1991 permit, but rather to the approach used to develop the 1991 limits themselves.

EPA believes the approach to calculating the 1991 technology-based limits was reasonable. In 1991, the permit calculations had to account for two changes that had occurred since issuance of the 1984 permit, which included BPJ-BAT limitations. First, new effluent guidelines for the refining industry had come into effect. Second, the facility significantly expanded its production capacity. In the 1991 permit, EPA appropriately carried forward the BPJ-BAT limits from the 1984 permit for the original production levels and added incremental limits for the production increase based on the national guidelines.

The commenter’s proposal to require all post-1984 changes in production to meet the efficiency of the pre-1984 treatment system ignores the applicability of the national effluent guidelines to this facility. In addition, the commenter’s suggestion that treatment efficiency from the 1984 BPJ evaluation applies to new process units is inconsistent with the national guidelines, which reflect different pollutant levels resulting from different refining processes. The approach of blending BPJ and national guideline limits (carried forward from the 1991 permit) enables EPA to account for post-1984 process changes in a more appropriate manner.

Finally, it should be emphasized that the technology-based limits in the 2000 Tesoro permit are more stringent than the expired permit. Based on historical performance and anti-backsliding, the 2000 permit continues to hold this facility to a significantly higher level of treatment than that required under the national effluent guidelines for petroleum refining.

Comment #2

The peak production rate used by EPA in its methodology for calculating technology-based effluent limits is 26% higher than the long term average production, resulting in excessive permissible effluents and violating required elements for application of effluent guidelines found at 40 CFR § 122.45(b)(2)(i).

The regulations at 40 CFR § 122.45(b)(2)(i) state that "production shall be based not upon the designed production capacity but rather upon a reasonable measure of the actual production of the facility...The time period of the measure of production shall correspond to the time period of the calculated permit limitations; for example, monthly production shall be used to calculate average monthly dicharge limitations."

EPA's use of a peak production rate to calculate both maximum daily and monthly average limits is an explicit violation of 40 CFR 122.45(b)(2)(I).

Response: EPA believes the use of peak production for this permit is consistent with the regulations and guidance. In accordance with the regulation cited, EPA has calculated the Tesoro limits using a reasonable measure of the actual production of the facility rather than the design capacity. The commenter asserts that EPA guidance indicates that a peak production rate should not be used if it is over 20% greater than the long term average production rate. The brief guidance memo cited by the commenter provides a variety of recommended considerations for development of production-based limits. It provides examples of situations where alternative approaches in setting production-based limits should be considered, but neither the regulations nor the guidance specify an acceptable ratio between peak production and long term average production. Based on the example variability ranges noted in the guidance memo, the variability in production rates at the Tesoro facility is not significantly outside the range of normal variability with respect to effluent guidelines development.

EPA disagrees that the production rate used in calculating the maximum daily and monthly average limits is an explicit violation of 40 CFR 122.45(b)(2)(i). The monthly average limits are based on monthly average production, consistent with the cited regulation. Lacking daily production data for the facility, EPA then took a conservative approach of using the monthly average value to calculate maximum daily limits. This approach clearly meets or exceeds the stringency of the cited regulation and is also consistent with examples in the guidance memo cited by the commenter.

Comment #3

Tesoro notes that the technology-based permit limits for BOD, oil and grease, COD, ammonia and sulfide are based on the current rate of 65.8 thousand barrels per stream day (bpsd). Tesoro requests that the final permit include a provision allowing the effluent to be subject to the 1991 permit limits during those months when average crude feedstock exceeds 74.9 thousand bpsd.

Response: Tesoro's production data indicates that feedstock rates above 70 thousand bpsd have not occurred since 1992. Tesoro has not provided production forecast information indicating that such feedstock rates are likely to occur in the coming five years. Therefore, EPA does not have a sufficient basis to establish alternate limits at this time.

Comment #4

Cook Inlet Keeper commented that EPA's attempt to characterize the nature of the remediation effluent as though it were remediation wastewater from cleanup of a leaking underground gasoline storage tank mis-characterizes the likely nature of these effluents and renders EPA's proposed demonstration of best available technology determined by best professional judgement invalid.

Noting that the permit imposes only a single limitation for benzene, Cook Inlet Keeper submitted a list of pollutants that show higher maximum concentrations in the remediation wastewater than in the refinery wastewater. Cook Inlet Keeper also asserted that all other conventional, non-conventional and toxic pollutants in this discharge would be unregulated.

Cook Inlet Keeper added that EPA must redo both its BAT BPJ analysis for toxic and non-conventional pollutants, its BCT determination for conventional pollutants and its determination of final effluent limitations for the remediation system effluents to adequately recognize and control all of the pollutants and toxic substances found in this waste stream (apart from 001A) if Tesoro intends to discharge this stream without benefit of secondary treatment.

Response: Volatile organic compounds (VOCs) are the primary pollutants of concern in the remediation effluent. EPA has developed a limitation on the remediation effluent that requires application of air stripping technology (or equivalent technology) to this waste stream to remove VOCs. As noted in the Fact Sheet, EPA has found that this technology is capable of removing over 99 percent of the hydrocarbons in contaminated waters. Based on the Best Professional Judgment (BPJ) assessment in the Fact Sheet, EPA believes that air stripping technology represents the Best Available Technology (BAT) for this kind of activity. EPA also believes the low levels of conventional pollutants in the remediation waste stream do not warrant additional Best Conventional Technology (BCT) treatment beyond air stripping. The commenter has not provided information to support establishment of a more appropriate technology (and associated indicator pollutants) for this activity.

Benzene has a relatively high solubility and is therefore more difficult to remove through air stripping than other VOCs. This means that benzene removal is a good indicator for the removal of all VOCs from a waste stream. EPA therefore disagrees with the comment that a single limitation on benzene alone means that all pollutants other than benzene are unregulated. The selection of benzene as the

indicator parameter and the limit (5 ug/l) are also consistent with the RCRA permit for the remediation activity.

Finally, from a water quality standpoint, EPA has evaluated the expected final 001 discharge of the pollutants of concern raised in this comment and determined that there is no reasonable potential to exceed Alaska water quality standards.

Comment #5

Cook Inlet Keeper commented that Tesoro's historical data shows that remediation system effluents will not meet EPA's alleged best available technology/best professional judgement effluent limitation of 5 ug/l for benzene.

Response: EPA believes the 5 ug/l limit for benzene is appropriate and achievable. It is the responsibility of the permittee to design and operate a wastewater treatment system that achieves the permit limitations. Tesoro has not raised concerns about its ability to meet this limit.

Comment #6

The proposed permit limits for TSS, equal to the 1991 limits, should be relaxed to levels required under the effluent guidelines for petroleum refining. While Tesoro installed a filtration unit in Spring 1998 and achieved these limits in 1998 and 1999, this recent compliance success reflects differing climatic conditions rather than improved TSS removal efficiency. During 1998-99, meteorological data collected at the Kenai airport indicated 36% more days with recorded precipitation than in 1996-97. Also, samples collected upstream of the filtration unit did not exceed permitted TSS limits in 1998-99.

Because the problems with TSS are due to events over which Tesoro has no control, anti-backsliding provisions do not apply, and EPA is therefore not prevented from establishing less stringent limits based on the effluent guidelines.

If EPA elects to retain BPJ-adjusted TSS limits, Tesoro requests that provisions be included to allow seasonal effluent guidelines-based limits during the period June through September.

Response: Two summer seasons have elapsed since the installation of the filtration unit. The meteorological and sampling information referenced in the comment indicate that this unit has not been tested under the high algae levels that have occurred in the ponds in the past.

EPA supports the proposal to split the TSS limits into summer and non-summer limitations. Effluent guideline-based limits will apply from June through September (based on seasonal algae growth), while more stringent limits will

apply during the remaining months of the year. However, rather than retaining the proposed 1991 limits for these non-summer months, EPA has applied the BPJ-adjusted limitations calculated in the same manner as the other technology-based limits (e.g., BOD). This assures a consistent basis for the technology-limits while establishing a summer-only exception for TSS.

C. Water Quality-based Permit Requirements

Comment #1

RCAC supports ADEC's proposed mixing zone for acute criteria that ensures a mixing zone size of 4.1 meters and 17:1 dilution rather than the proposed 56:1 mixing zone. The permittee should be able to meet aquatic life criteria at the edge of the 4.1 meter mixing zone.

Response: In accordance with the Alaska water quality standards, mixing zones are authorized by the State of Alaska in its 401 certification of a permit. For the Tesoro permit, ADEC has authorized the same mixing zones that were proposed as part of the draft permit. The acute mixing zone radius from the outfall terminus is 4.1 meters, and the chronic mixing zone radius is 33 meters.

Comment #2

Tesoro's attempt to pump and discharge groundwater remediation effluent without the treatment this discharge currently receives triggers required review for anti-backsliding and water quality non-degradation.

Response: EPA agrees that anti-degradation considerations may be triggered by the potential increase in pollutant discharge from the addition of the remediation waste stream to the overall discharge. DEC has determined in its 401 certification that anti-degradation requirements in the Alaska water quality standards have been satisfied.

EPA disagrees that anti-backsliding is triggered, because none of the limitations in the reissued permit are less stringent than limitations in the previous permit for this facility. This permit is the first instance in which effluent limitations applicable to the remediation effluent have been established, and the permit limitations require the use of an effective treatment system for this waste stream.

Comment #3

The sheer volume of all the discharges allowed in Cook Inlet needs to be considered by EPA.

Response: EPA considers both the volume and concentration of pollutants in its evaluations of Cook Inlet facilities. EPA has no information suggesting that Cook Inlet water quality is adversely impacted by the Tesoro facility or NPDES-permitted sources as a whole.

Comment #4

The Village of Port Graham and Native Village of Eklutna request that EPA to work toward zero discharge in the Cook Inlet. This effort would have a positive impact on the health and sustainability of Cook Inlet.

Response: Section 301 of the Clean Water Act requires that effluent limits in NPDES permits achieve both technology-based requirements and compliance with state water quality standards. The water quality standards are designed to protect the human health and aquatic life uses of the waters of the state. EPA believes the permit conditions for this facility achieve the requirements of the Alaska water quality standards and are therefore protective of Cook Inlet resources.

Comment #5

EPA has failed to include legally enforceable final effluent limitations for whole effluent toxicity. The draft permit should be amended to require an acute limit of 1 TUa and a chronic limit of 1 TUc if there is no mixing zone. If there is a mixing zone, then the limit should be set in chronic toxic units that will ensure that there be no chronic toxicity at the border of the mixing zone.

Response: The state of Alaska has authorized mixing zones for the Tesoro discharge and has certified that the permit conditions for toxicity will achieve Alaska water quality standards. As described in the fact sheet, EPA has evaluated the chronic toxicity data for Tesoro to determine if there is a reasonable potential to exceed the Alaska standard (1 TUc) at the mixing zone boundary. EPA determined that there is no reasonable potential for an exceedence; therefore, EPA does not believe an effluent limit for this parameter is warranted (40 CFR 122.44(d)).

The Alaska water quality standards do not contain a numeric standard for acute toxicity. The state of Alaska has stipulated acute toxicity monitoring (but no limit) in its 401 certification.

Comment #6

Tesoro's mixing zone application, submitted to the State of Alaska, was criticized on a number of points, including:

(1) The risk assessment fails to consider bioaccumulation and summarily dismisses biomagnification.

(2) No analytical work was done for chlorinated dibenzo-dioxin toxic equivalents.

(3) The risk assessment relied on an erroneous assumption that total aromatic hydrocarbons were never detected in effluent 001A.

(4) An uncharacteristically high discharge rate (750 gallons per minute or over 1 million gallons per day) was used to model the discharge plume.

(5) Acute aquatic life effects from organic chemicals were not considered.

(6) Impacts from high molecular weight PAH compounds were not considered.

(7) The mixing zone application did not consider that background levels of copper, nickel, zinc, and mercury in Cook Inlet, measured in the Anchorage area, exceed EPA water quality criteria.

(8) Background PAH levels were not provided.

(9) A claim that total aromatic hydrocarbon concentrations in the combined 001A and remediation effluents are below the detection limit is unsupportable.

Response: EPA does not have the authority to authorize mixing zones. In accordance with the Alaska water quality standards, mixing zones are authorized by the State of Alaska in its 401 certification of a permit. In its 401 certification, ADEC has determined that sufficient information has been provided to support authorization of acute and chronic mixing zones for the Tesoro discharge. While EPA is not the authorizing agency, the following responses are offered for informational purposes.

First, EPA notes that the document criticized by the commenter is Tesoro's application for a mixing zone, and several criticisms are not relevant to the subsequent mixing zone determination by the State of Alaska Department of Environmental Conservation (ADEC). ADEC has not authorized a mixing zone for the following pollutants cited by the commenter as lacking analysis in the Tesoro submittal to ADEC:

pollutants that bioaccumulate and/or biomagnify (Comment #1)
dioxin toxic equivalents (Comment #2)
organic chemicals (Comment #5)
PAHs (Comments #6 & #8)
copper, nickel, zinc, and mercury (Comment #7)

Therefore, the alleged weaknesses in the analysis of these pollutants are not pertinent to the ADEC mixing zone determination.

Concerns regarding the state mixing zone must be addressed through the appropriate administrative procedure of the state of Alaska. However, for informational purposes, EPA offers the following observations regarding the mixing zone analysis.

Regarding dilution modeling (Comment #4), a variety of flowrates were modeled and included in Tesoro's mixing zone application. The flow value associated with the worst-case dilution calculations is consistent with the estimates of maximum effluent flow in Tesoro's permit application. EPA has run the same dilution model (PLUMES) using a significantly lower flow rate (approximately 200 gpm) to investigate the concern expressed in the comment about changes to the ambient mixing dynamics. This model prediction indicates that the mixing zone dilution would be achieved at a smaller radius from the outfall terminus under low effluent flow conditions.

Regarding total aromatic hydrocarbons (Comments #3,#9), this pollutant had not been detected at the time the mixing zone study was submitted to ADEC (July 1998). In sampling since that time, total aromatic hydrocarbons has been detected in five samples, with the maximum detected value of 1.5 ug/l. The Alaska water quality criterion is 10 ug/l. The more recent data does not change the conclusions of EPA's water quality analysis for total aromatic hydrocarbons.

Comment #7

ADEC must provide a certification in order for EPA to apply mixing zones in the calculation of water quality-based effluent limitations

Response: EPA agrees. ADEC has provided a 401 certification of the permit that includes mixing zone authorizations. The final permit limits are consistent with these authorizations.

Comment #8

Permit modification and re-issuance proceedings in 1985 and 1991 did not properly recognize non-degradation and anti-backsliding policies.

Response: The 1985 and 1991 permitting processes are superceded by the 2000 permit reissuance process. In this permit reissuance, EPA and ADEC have fully considered and implemented the anti-degradation and anti-backsliding requirements that apply to this permitting action.

Comment #9

EPA documents for this industry indicate that mercury is commonly found in wastewater samples. Tesoro has collected only one sample for mercury in the process effluent and two samples of the remediation effluent. EPA should require monthly mercury monitoring (including total recovery of elemental mercury and all mercury compounds). Monitoring should be conducted at an internal monitoring point located at the inlet to pond #2 prior to the influence of remediation wastewater.

The permit should incorporate a mercury control plan that includes testing of crude sources and a mass balance study of the facility.

Response: EPA agrees that periodic monitoring for mercury using low detection levels is a reasonable requirement for this permit, and the permit has been changed to include mercury monitoring. EPA believes annual monitoring is a more appropriate frequency given the monitoring results to date. Monitoring for mercury compounds (rather than total mercury) is not required, because there are no Alaska water quality criteria for specific mercury compounds. Finally, given that the purpose of the monitoring is to discern and evaluate potential impacts to Cook Inlet, the monitoring is required at the final effluent rather than an internal monitoring point. A minimum reporting level of 0.5 ng/l is included to insure that any mercury concentrations above the Alaska water quality standards are detected in the final effluent. The aquatic life criterion for protection against chronic effects from mercury is 12 ng/l.

Given that mercury has not been detected in the effluent to date, EPA believes it would be premature to include an extensive mercury management plan in the permit. If mercury is detected at levels of concern in the periodic monitoring, EPA has the authority to modify the permit to include effluent limitations or other conditions for mercury.

Comment #10

Tesoro's existing and proposed systems of wastewater management and disposal inherently and explicitly use flow augmentation. Tesoro appears to be using flow augmentation as its strategy to meet water quality standards and certain effluent limitations without required authorizations necessary to allow such a practice. Tesoro's flow augmentation system will make toxic constituent effluent quantification more difficult and subject to error.

Response: EPA does not view Tesoro's existing and proposed systems of wastewater management and disposal as employing flow augmentation. Flow augmentation, as discussed in the Clean Water Act and cited congressional records, involves the diversion of waters outside a facility to augment the receiving water flow or dilute the effluent from a facility. Since the Tesoro remediation discharge is a treated waste stream from an on-site activity, its discharge is not considered a "'non-treatment' technique such as flow augmentation" subject to the NPDES regulations at 40 CFR 125.3.(f).

The commenter has offered citations regarding flow augmentation from the Clean Water Act statute and conference committee reports. The citations refer to "regulation of stream flow", "stream flow augmentation", and "low flow augmentation". EPA believes the use of the term "stream flow" in these discussions refers to attempts to divert clean water from outside a facility in a manner that creates more favorable low flow conditions and higher water quality-based effluent limitations. The Tesoro remediation discharge is not diverted water; rather, it is one of numerous waste streams originating from on-site activities. In addition, the receiving water in this case is not a riverine system with a characteristic "stream flow".

Since the technology-based limits for Tesoro are mass-based (calculated by multiplying effluent flow times the effluent concentration), addition of the remediation waste stream provides no benefit for meeting technology-based requirements of the permit.

Regarding water quality-based concerns, EPA agrees that addition of the remediation waste stream could reduce the ability to detect some pollutants generated in the refining process. This is only an issue, however, for pollutants with water quality criteria below the detection limits. For Tesoro, dioxin (2,3,7,8-TCDD) is the only pollutant of concern with water quality criteria below the detection limit. This potential problem with dioxin is already addressed by requiring Tesoro to monitor for dioxin at internal monitoring locations, prior to dilution by remediation wastewater.

Comment #11

Cook Inlet Keeper submitted several comments regarding dioxin, including:

(1) The proposed permit fails to provide effluent limitations for chlorinated dioxin/furan toxic equivalents at an internal monitoring point for reformer catalyst regeneration operations. The permit should impose a technology-based limitation representing Best Available Technology on effluents containing dioxins, furans, TOX (total organic halogen), and AOX (adsorbable organic halogen).

(2) No review of the need for water quality-based limitations for dioxins and furans was done.

(3) Nothing in the permit holds Tesoro accountable for a level of treatment.

(4) The reporting scheme for 2,3,7,8-TCDD creates an incentive to minimize reported 2,3,7,8-TCDD effluents by increasing final effluent flows to show a lower overall reported 2,3,7,8-TCDD effluent concentration.

(5) The draft permit also relaxes previous dioxin, furan, and organic halogen monitoring requirements.

(6) The draft permit does not specifically state whether the monitoring location is pre or post treatment for the catalyst regeneration waste; this monitoring point should be clarified.

Response: (1) Tesoro's refining operation is covered under a national effluent guideline that establishes BAT limitations for refining operations (40 CFR 419.20). These BAT limitations have been incorporated into the permit. Dioxins, furans, and organic halogens are not limited pollutants under the national guideline. EPA does not agree that development of additional technology-based effluent limitations for these pollutants based on best professional judgement is necessary for the Tesoro permit.

Tesoro's permit application and other conditions in the permit insure that an effective treatment technology is used to remove organic pollutants from the catalyst regeneration waste stream. In its permit application, Tesoro has applied to discharge the catalyst regeneration waste stream after treatment in an activated carbon system. A 1996 EPA analysis of dioxins/furans from catalyst regeneration indicates that activated carbon is an effective method of treatment and achieves over 95% removal of these compounds (Preliminary Data Summary for the Petroleum Refining Category, EPA-821-R-96-015).

(2) As noted in the fact sheet, EPA evaluated 2,3,7,8-TCDD discharges and determined that there is no reasonable potential that the Tesoro discharge will exceed the Alaska water quality standards. With respect to other dioxin and furan compounds, the Alaska water quality standards do not contain either numeric criteria or narrative guidance for other dioxin and furan compounds.

EPA recognizes the ongoing scientific evaluation of the toxicity of dioxin and furan congeners. In response to this comment, EPA evaluated the expected levels of dioxin and furan compounds in the Tesoro discharge. First, the concentrations of dioxin/furan congeners measured during catalyst regenerations in 1996, 1997, and 1999 were identified. Then projected post-treatment values were calculated using the expected removal efficiency of activated carbon. These values were then multiplied by the toxic equivalent factors identified in the most recent dioxin evaluations by the World Health Organization (Environmental Health Perspectives, Volume 106, Number 12, December 1998). The resulting equivalent 2,3,7,8-TCDD concentrations were summed to determine the total equivalent concentration in the catalyst regeneration waste stream. The concentration in the final discharge from the facility was then estimated using the proportion of flow in the catalyst regeneration process to the final effluent flow from the refinery. While additional removal of dioxins/furans in the secondary treatment system would be expected, EPA conservatively assumed no removal. To account for long term exposure basis, final effluent concentrations were

averaged over a 1.5 year period (the frequency of the catalyst regeneration activity).

The above calculations project an average toxic equivalent concentration below the Alaska 2,3,7,8-TCDD criterion at end-of-pipe for the worst-case monitoring period (1999). Based on this analysis, EPA does not believe dioxin/furan limits are warranted at this time. However, EPA has revised the permit to require continued monitoring and reporting of all dioxin/furan congeners in the treated waste stream.

(3) The permit contains significant requirements that hold Tesoro accountable for treatment of this waste stream. The permit requires Tesoro to provide written confirmation that the treatment process is installed and operational prior to the next catalyst regeneration. The discharge authorization language (Part I.) in the permit requires Tesoro to operate the treatment system indicated in the permit application, and the boilerplate language of all permits requires proper operation of treatment systems.

(4) EPA believes the monitoring and reporting requirements for 2,3,7,8-TCDD will provide sufficient information on the quality/quantity of the internal waste stream and final effluent to evaluate facility operations. Therefore, EPA does not agree that there is an incentive in the reporting scheme for increasing effluent flows to mask discharge levels.

(5) In response to concerns raised about dioxin/furan compounds other than 2,3,7,8-TCDD, EPA has revised the final permit to require monitoring and reporting of all dioxin/furan congeners in the treated catalyst regeneration wastewater.

EPA is not requiring monitoring for organic halogens, because EPA does not anticipate any new effluent guidelines or water quality-based criteria for these pollutants in the near future. If circumstances change, EPA can require additional monitoring under the authority of Section 308 of the Clean Water Act.

(6) EPA has revised the permit to specify that the <u>treated</u> catalyst regeneration waste stream is to be monitored.

Comment #12

Commentors object to abolishing requirements found in the 1991 permit for a water quality-related effluent limitation for total petroleum hydrocarbons and total aromatic hydrocarbons, based on the following concerns:

- Monthly monitoring in the 1991 permit may have contributed to a lack of data.

- A serious spill or upset may cause increased discharges.

- Tesoro's updated application contains conflicting and potentially erroneous information.

- Total aqueous hydrocarbons and total aromatic hydrocarbons are very important from an environmental health standpoint.

- Alaska water quality standards do not adequately protect against affects on embryonic fish.

- Removal of limits violates anti-backsliding provisions of the Clean Water Act.

- Removal of limits violates anti-degradation provisions of Alaska water quality standards.

Response: EPA agrees that hydrocarbon discharges are important and takes a conservative approach in evaluating all water quality parameters. Applying multipliers to maximum projected discharges from the Tesoro facility, EPA determined that there was no reasonable potential to exceed the water quality standards for hydrocarbons. Therefore, consistent with the NPDES regulations (40 CFR 122.44(d)), no limits for hydrocarbon parameters were included in the draft permit. Subsequently, in its 401 certification of the permit, the state of Alaska stipulated that limits should be included in the permit. Based on this stipulation, EPA has incorporated the limits from the state certification into the final permit.

In its permit application, Tesoro's reported maximum hydrocarbon concentrations are based on 46 samples from the process outfall and 11 samples from the remediation system. This is an adequate database to evaluate the discharge with respect to water quality standards. EPA employs safety factors based on the number of samples in evaluating the potential to exceed standards.

There is no basis for retaining conditions for total petroleum hydrocarbons in the permit, because this parameter was formally removed from the Alaska water quality standards during the last permit term. The criterion for total aromatic hydrocarbons remains unchanged in the standards, and a criterion for total aqueous hydrocarbons was added to the standards. These two pollutants were evaluated during permit development, and water quality-based limits for these pollutants are included in the final permit.

Regarding concerns about the Alaska water quality standards for hydrocarbons, EPA does not have the authority to adjust water quality standards in an NPDES permit. Concerns about the adequacy of state water quality standards can only be addressed through the standards revision process.

EPA disagrees that potential spills dictate that limits be included for hydrocarbons. Spills are explicitly prohibited from discharge according to the permit.

The change to the previous water quality-based limit for total aromatic hydrocarbons is based on the state 401 certification. This change is allowable under the anti-backsliding provisions of the Clean Water Act (303(d)(4)(B)), provided it is in compliance with state anti-degradation requirements. In its 401 certification, ADEC has determined that the permit satisfies anti-degradation provisions.

Comment #13

The permit condition (I.B.2) for acute toxicity should be excluded from the final permit, because the Alaska water quality standards do not include requirements for acute toxicity. Although characterized as a testing requirement rather than a limit, this condition effectively operates as an effluent limit - if Tesoro exceeds the trigger, the permit requires a TRE.

If EPA elects to retain an acute toxicity trigger, this limit should be corrected to 5.4 TUa based on ADEC's acute mixing zone. This value would be based on a dilution of 17:1 and a criterion maximum concentration of 0.3 TUa, which is recommended in the Technical Support Document for Water Quality-based Toxics Control.

Response: EPA agrees that Alaska water quality standards do not include numeric water quality criteria for acute toxicity. Since the state of Alaska has not stipulated conditions beyond semi-annual monitoring for acute toxicity in its 401 certification, EPA has removed the trigger conditions for this parameter.

D. Monitoring Requirements

Comment #1

Under the proposed permit, the mussel/oyster chronic toxicity test results would be subjected to a numeric criterion based, in part, on historic toxicity testing results that were derived using tests of different species, methodology, and endpoint. Because the test results cannot be compared, Tesoro requests that the mussel/oyster test be excluded from the final permit.

Cook Inlet RCAC supports the proposed use of bivalve larval development tests and echinoderm fertilization tests.

Response: EPA has retained the requirement for mussel/oyster testing. The numeric criterion in the Alaska water quality standards (1 TUc) is not based on historic testing, but rather on the goal of achieving an endpoint of no chronic toxic effects to aquatic life in the receiving water. The state standard for toxicity must be achieved for all aquatic life, not simply those species that have been tested to date.

EPA guidance recommends the use of more than one taxon for toxicity testing. The mussel/oyster test is included in EPA's West Coast test methods manual and is commonly required in NPDES permits. Finally, the state of Alaska has not stipulated any changes to the toxicity monitoring requirements in the draft permit and has certified that the permit complies with state water quality standards.

Comment #2

Because there is no reasonable potential to exceed state water quality standards for chronic toxicity, Tesoro requests that the requirements for chronic toxicity be excluded from the final permit. If EPA elects to retain these requirements, Tesoro requests that the trigger value be corrected from 56 TUc to 57 TUc, since a dilution ratio of 56:1 translates to a dilution factor of 57. Similarly, Tesoro requests that the references to the chronic trigger dilution be corrected from 1.7% effluent to 1.8% effluent.

Cook Inlet RCAC supports a toxicity sampling regime that incorporates some level of intra-annual variability and that ensures a continued lack of chronic toxicity in the effluent. RCAC suggests at least semi-annual testing (instead of annual).

Cook Inlet Keeper commented that the draft permit is deficient on the frequency and type of whole effluent toxicity testing conducted and the species used. The permit should not relax the chronic testing from quarterly to annual, and it should not relax accelerated testing after an acute or chronic trigger is exceeded from 8 tests to 4 over an 8 week period.

Response: Because Tesoro is a major industrial facility, EPA believes periodic monitoring of chronic toxicity is warranted to assess the variability of the effluent over time. EPA has reviewed the extensive toxicity test data for the 001A discharge (absent the remediation effluent) and has found no reasonable potential to exceed the Alaska water quality standards for toxicity. Tesoro has conducted a single test of the remediation effluent, and this test also indicated no reasonable potential to exceed standards with respect to acute or chronic toxicity. Nevertheless, given the lack of toxicity data for the combined discharge, EPA has increased the chronic testing frequency in the draft permit to semi-annual testing. The state of Alaska has stipulated this testing frequency in its 401 certification.

EPA agrees that there was a minor error in the calculation of the trigger value. The trigger value should be 57 TUc (and dilution should be 1.8%). The permit has been revised accordingly.

Accelerated testing is included in the permit to determine if an exceedence of the trigger values is an isolated event or an ongoing problem. EPA believes that four tests are sufficient to make this determination.

Comment #3

Because total aromatic hydrocarbon and total aqueous hydrocarbon levels in the discharge have been orders of magnitude lower than the wasteload allocations calculated for the proposed mixing zone, Tesoro requests a reduction in the monitoring frequencies for these pollutants to once per year.

Cook Inlet Regional Citizens Advisory Council (RCAC) strongly supports the proposed weekly monitoring requirements for total aromatic hydrocarbons and total aqueous hydrocarbons. The variability in these data will drive the mixing zone size for future permit renewals.

Response: In its 401 certification, the state of Alaska has stipulated that weekly monitoring of total aromatic hydrocarbons and total aqueous hydrocarbons is required. The final permit has been revised accordingly.

EPA notes that projected maximum hydrocarbon concentrations are within the same order of magnitude as the wasteload allocation values.

Comment #4

The requirement that 24-hour composite samples be used for toxicity testing is excessively burdensome and provides no environmental benefit. Commercial automatic samplers collect a maximum 5 gallons of sample, while the testing requires 15-20 gallons. Tesoro requests single grab sampling for toxicity.

Response: Composite sampling is superior to grab sampling, because it captures variability in discharge quality over the period of sampling (in this case, a full 24 hour period). Compositing of samples is a requirement commonly included in permit for major industrial facilities such as the Tesoro refinery.

Comment #5

The requirement that chronic toxicity test solutions be renewed twice (days 3 and 5) with fresh effluent samples is excessively burdensome. Tesoro requests single grab sampling for chronic toxicity.

Tesoro requested that the permit requirements for toxicity testing dilution water be adjusted to reflect the facility's use of spring water for holding, control, and dilution water in acute tests.

Response: EPA agrees that use of a single sample for toxicity tests is acceptable. As noted above, EPA is requiring that this sample be a 24-hour composite rather than a

grab sample. EPA also agrees that the use of spring water in acute testing is acceptable.

In reviewing this and related comments on the toxicity language, EPA determined that the language regarding test type, test duration, dilution water, and sample renewal was not sufficiently clear. To provide more clarity, EPA has replaced the draft language at Part I.B.3.d. with a table listing the required test procedures.

Comment #6

Tesoro commented that the 36-hour holding time limit for toxicity samples cannot always be achieved due to shipping problems between the Tesoro facility and the laboratory (located in Washington state). Tesoro requested an allowance for a holding time of 56 hours to address shipping problems.

Response: The 36-hour time limit is required by the regulation establishing monitoring procedures for NPDES permitting (40 CFR 136). Therefore, this provision is unchanged in the final permit. Nevertheless, EPA acknowledges that shipping problems, due to inclement weather or other problems, can result in exceedences of this time limit.

Comment #7

Reformer regeneration effluent will be collected in a tank, treated for chlorine removal, and routed at a constant flow rate to granular activated carbon (GAC) beds for organics removal. Because the wastewater will be chemically homogenous and will be fed to the GAC beds at a constant flow rate, aberrations in GAC effluent should not occur. However, if unanticipated GAC breakthrough should occur, it would be most evident in the analyses of the last day's discharge.

Based on the above, 24-hour composite samples collected daily throughout reformer regeneration (the proposed requirement in the draft permit) would not provide any more useful information than a single daily composite from the last day of discharge. Therefore, Tesoro requests that the permit require a single daily composite from the last day of discharge.

Response: EPA agrees that a single composite sample is acceptable, but the composite should consist of aliquots collected over the period of discharge rather than the last day only. Therefore, EPA has revised the permit language to require the composite sample to be a flow-proportioned mixture of not less than eight discrete aliquots, equally spaced over the discharge period. This is consistent with the dioxin monitoring in the 1991 permit.

Comment #8

When lab results indicate 2,3,7,8-TCDD is below detection limits, Tesoro understands it will report the daily discharge in a "less than" format based upon the reported detection limit (and the proportion of treated reformer effluent to total effluent).

Response: EPA concurs with this reporting approach and has incorporated new language into the dioxin monitoring footnote.

Comment #9

The monitoring frequency for many parameters has been maintained (BOD, Oil and Grease, Sulfide, pH) or increased (COD, TSS, Ammonia, Total and Hexavalent Chromium, Phenolic compounds, Total Aromatic Hydrocarbons (TAH) and Total Aqeous Hydrocarbons (TAqH)) since the previous permit. For a number of reasons, Tesoro believes these frequencies should be reduced or even eliminated as their limits are all set more stringent than the effluent guidelines, and are more stringent than necessary for water quality based effluent limits. Compliance with these parameters has been quite good and future exceptions would be identified under the non-routine sampling terms of the permit.

Response: EPA has established the monitoring frequencies based on a number of considerations, including: type/size of facility, compliance history, pollutant type (e.g., conventional, toxic), basis of limits, and relative cost of analysis. Generally, for a facility like the Tesoro refinery, EPA believes it is reasonable to require weekly analyses for relatively low-cost conventional and non-conventional pollutants with technology-based limits (e.g., BOD, COD, Oil and Grease, Sulfide, pH) and pollutants with water quality-based limits (Ammonia).

EPA believes the technology-based BAT pollutants (total chromium, hexavalent chromium, and phenols) should be monitored at the same frequency for consistency. The proposed monthly monitoring is more frequent than the previous permit for total and hexavalent chromium (quarterly to monthly) but less frequent for phenols (weekly to monthly). Thus, the total required samples per year for this class of pollutants is reduced from 60 samples to 36 samples in the reissued permit. EPA believes this reduction is appropriate, because past monitoring for these parameters has indicated that discharges are well below the permit limits (See Table 1 in Fact Sheet).

See Comment #3 in this section regarding hydrocarbon (TAH and TAqH) monitoring frequency.

Comment #10

The composite sampling requirement for phenolic compounds is unwarranted. It quadruples the frequency of analysis for this pollutant. With one exception (April 1991), the Tesoro effluent

has been well within both past and proposed phenolics limits. Tesoro requests that this requirement be replaced with either grab or conventional composite sampling.

Response: EPA agrees that composite sampling for phenolic compounds (which requires individual aliquot analyses) is not necessary given the past monitoring information for the Tesoro facility. The permit has been revised to require grab samples for this pollutant.

Comment #11

Commentors strongly support the requirement of the draft permit to increase the sampling frequency for total suspended solids, chemical oxygen demand and ammonia as N.

Response: Comment noted.

Comment #12

Cook Inlet Keeper commented that sampling frequencies must be increased for total chromium, hexavalent chromium, cyanide and phenolic compounds. Failure to provide weekly sampling renders the monthly average effluent limitation for these pollutants ineffective and unenforceable.

Response: EPA disagrees that monthly sampling renders monthly average effluent limitations for these pollutants ineffective and unenforceable. If the permittee takes a single sample in a month, the value of that sample is reported as both the daily maximum and monthly average discharge for that month (See Definitions section of the permit under “Daily discharge”, “Monthly average discharge limitation”, and "Maximum daily discharge limitation").

Comment #13

Contrary to statements by Tesoro, refinery processes are known to generate cyanide compounds. The hydrocracking unit at Tesoro is a potential source of cyanide given the use of catalytic, hydrogenated cracking that will take place in that unit.

Response: Comment noted. Tesoro detected cyanide in a single sample in 1995. The company subsequently notified EPA of a potential cyanide contamination source in laboratory reagents used for analysis of its wastewater. Since changing the reagents used in the laboratory, cyanide has not been detected in 11 follow-up samples of the effluent. Monitoring for cyanide on an annual basis is required in the permit as a periodic check.

Comment #14

EPA should require installation of a continuous pH effluent monitoring device, based on past problems such as excessive ammonia levels in wastewaters.

Response: pH can be an important indicator of the performance of biological treatment systems, and continuous monitoring devices are in common use by NPDES permittees. Given that Tesoro operates a biological treatment system, EPA agrees that continuous pH monitoring for this facility is appropriate. The final permit has been changed accordingly. This change also necessitates the addition of permit language regarding the allowable duration of excursions outside the pH range (40 CFR 401.17).

Comment #15

Commentors support the recommendation made in prior permitting reviews by the U.S. Fish and Wildlife Service on May 2, 1986 that certain toxicants (sulfide, phenol, total chromium, and hexavalent chromium) in Tesoro's effluent be reduced by setting more stringent water quality-based effluent limitations.

Response: EPA has evaluated the need for water quality-based limitations for these parameters. The Tesoro discharge does not show a reasonable potential to exceed Alaska water quality standards for the parameters listed by the commenter. Therefore, no water quality-based limitations are established for these parameters.

Comment #16

EPA should require Tesoro to conduct on-site, dynamic toxicity tests rather than static tests. This requirement is important given the volatility of some of the pollutants in the discharge and the potential of the static tests to allow diminished toxic potency occurring as a result of storage, handling, and transport to a remote laboratory.

Response: EPA does not have information, nor has the commenter supplied information, indicating that flow-through testing should be required for refineries. Given that the discharge shows no reasonable potential to exceed the Alaska standards for toxicity or hydrocarbons, EPA does not believe the additional burden and complexity of dynamic testing is warranted in this case. The state of Alaska has certified that the permit conditions satisfy the state water quality standards.

Comment #17

At least half of the acute toxicity tests should be done with indigenous juvenile salmonids. This would comply with Alaska standards for toxicity that require the use of indigenous species.

Response: The Alaska standards referred to in the comment are for chronic, not acute, toxicity. As discussed above, the Alaska water quality standards do not contain numeric standards or test species requirements for acute toxicity. In terms of wastewater management, the acute test species used in the previous permit (rainbow trout) has been sufficiently sensitive to enable Tesoro to identify and control ammonia toxicity in its wastewater system. The State of Alaska has certified that the permit conditions are sufficient to insure compliance with Alaska state standards.

Comment #18

Toxicity testing should be required during contingent upset events and non-characteristic flows addressed in provision III.A. of the permit. Routine toxicity testing should reflect the influence and presence of any chemical additives, such as anti-scaling and anti-corrosion agents.

Response: The permit includes a number of enforceable conditions regarding upsets and non-routine discharges. Above all, the permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams (Part I). Part III.A. of the permit requires the permittee to analyze samples for those parameters limited in Part I.A. of this permit that are likely to be affected by a non-routine discharge. EPA believes it is appropriate to focus this monitoring requirement on limited pollutants to determine if any violations occur as a result of a non-routine discharge. As discussed above, toxicity is not a limited pollutant in the permit.

The permit also requires the permittee to take samples that are representative of the discharge. A representative sample would include any chemical additives of concern.

Comment #19

Any cessation of remediation flow into the 001A treatment system (for example, caused by a mechanical failure) should be specifically identified as a “non-routine” event under Section III.A. that triggers the need for sample collection.

Response: Section III.A. is specifically designed to address non-routine <u>discharges</u>, not all non-routine “events”. The language specifically refers to spills, discharges, or bypassed effluents. These are occurrences that may add pollutants to the final discharge. Therefore, EPA does not agree that the <u>cessation</u> of an internal waste stream discharge constitutes an appropriate trigger for additional monitoring under this clause.

Comment #20

Tesoro requests that ambient sediment monitoring be changed from two sampling events (first and fourth year) to a single sampling in the fourth year of the permit. Changes to sediment quality occur gradually and two samplings would be excessive. The State of Washington, which has extensive experience in the study of sediments, requires a single sampling in a permit term. Sampling in the fourth year would enable Tesoro to develop a sampling plan that takes into account any new or refined regulatory approaches.

Response: EPA does not believe four years should pass before the first sediment sampling. While EPA agrees that changes to sediment quality are not a short-term phenomenon, EPA also believes changes could occur over a period of years. Therefore, EPA has retained the requirement for two samplings during the permit term.

Comment #21

Cook Inlet RCAC strongly supports inclusion of the Ambient Sediment Monitoring Requirements and requests that EPA require a public review process for the sampling plan. The sampling plan is not included in this permit review process, and we wish to ensure our participation in the review process of the entire permit.

In addition, RCAC contractors have suggested that specific biomarkers and hydrocarbon analytes be incorporated into our future analyses in Cook Inlet. We suggest that these recommended additions to the analyte list provided in the reports that were referenced in this draft permit be included in the sediment sampling plan.

Response: As noted in the comment, the permit requires that sediment analytes be consistent with those used in the Cook Inlet RCAC Environmental Monitoring Program (1996 and 1997). EPA contacted the RCAC to clarify which biomarkers should be added to the analyte list. RCAC identified the particular classes of analytes of interest (steranes, diterpanes, and triterpanes), and EPA has added them to the analyte list in the sediment monitoring requirements.

Regarding review of sampling plans, EPA does not have sufficient resources to conduct public review processes for each portion of the permit that requires planning by the permittee (e.g., BMP plan, QA Plan, sediment monitoring plan). EPA has established objectives and requirements in the permit to insure that the sampling plan is acceptable and consistent with previous RCAC studies.

Comment #22

Testing needs to be conducted on fish (such as salmon, hooligan and halibut), clams, microscopic plants and beluga to determine the level of contamination by the discharge.

EPA has not released the final draft of the Cook Inlet subsistence study. The information from this study should have some relevance to EPA's regulatory decisions related to the health and sustainability of Cook Inlet.

Response: EPA is conducting a study of bioaccumulation in Cook Inlet. This study is not yet complete. EPA agrees that findings from such a study could impact regulatory activities in the Cook Inlet vicinity.

Given that some of the noted species migrate long distances, EPA does not believe a separate study by Tesoro would necessarily identify contamination originating from the Tesoro discharge. EPA also notes that the levels of bioaccumulative pollutants in the Tesoro discharge are below the water quality criteria levels.

Comment #23

U.S. Fish and Wildlife (USFWS) concurs with EPA that the Tesoro discharge is not likely to adversely affect threatened Stellar's eiders. Given the potential toxic effects of polycyclic aromatic hydrocarbons and dioxin, USFWS recommends that a study be completed to identify the zone of deposition of these materials. In addition, we recommend that the number and identification of birds using habitat at the outfall, and within 4 nautical miles of the outfall, be documented to assist in evaluating the potential risk to this species. Surveys should be conducted on a monthly basis for at least 1 year.

Response: EPA has included sediment monitoring requirements in the Tesoro permit. This monitoring should provide an indication of the degree to which the permitted discharge may be affecting sediment quality. EPA believes that additional eider surveys should be required only if the monitoring results raise concerns about sediment quality in the outfall vicinity.

E. Best Management Practices

Comment #1

Required best management practices contained in the draft permit are inadequate; more specific measures must be incorporated in the draft permit. Inadequacies include:

(1) Tesoro's existing BMP plans for spill control and countermeasures are inadequate as referenced in the draft permit. Inadequacies include practices identified for secondary containment, handling of stormwater from diked areas, and leak prevention in wastewater collection and conveyance systems.

(2) The draft permit should contain best management plans for operation and maintenance of wastewater treatment equipment, operation of the groundwater remediation system, and management of sludges, stockpiles, sediments and other materials.

Response: The permit incorporates existing BMP plans "as part of the BMP plan for this permit". The permit also establishes objectives for the comprehensive BMP plan to be developed and implemented by the permittee. It is the permittee's responsibility to meet the objectives by developing specific practices for the facility. This may require BMPs in the existing plans to be reviewed and revised. The permit specifically requires that Tesoro's BMP plan achieve the following objectives:

1. The number and quantity of pollutants and the toxicity of effluent generated, discharged or potentially discharged at the facility shall be minimized by the permittee to the extent feasible by managing each waste stream in the most appropriate manner.

2. Under the BMP Plan, and any Standard Operating Procedures (SOPs) included in the Plan, the permittee shall ensure proper operation and maintenance of water management and wastewater treatment systems. Plan elements shall be developed in accordance with good engineering practices.

3. Each facility component or system shall be examined for its waste minimization opportunities and its potential for causing a release of significant amounts of pollutants to waters of the United States due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc. The examination shall include all normal operations and ancillary activities including material storage areas, storm water, in-plant transfer, material handling and process handling areas, loading or unloading operations, spillage or leaks, sludge and waste disposal, or drainage from raw material storage.

EPA believes that these objectives (and examples provided in the language) cover the areas of concern raised by the commenter. Given that there are likely to be a number of different BMP options that achieve a particular objective, EPA does not believe it is appropriate for the agency to dictate specific measures to be adopted by the permittee in its BMP plan. Rather, EPA will review the plan to determine whether it meets the objectives outlined in the permit.

Comment #2

Best management practices should be required for control of dioxins/furans and multi-media transfer to the aqueous phase.

Response: Tesoro has applied to treat for dioxins/furans in the waste stream where these pollutants are generated, and the permit requires proper operation of that treatment system. EPA has no information indicating that multi-media transfer of dioxins/furans from stack emissions (during periodic catalyst regeneration activities) is occurring.

Comment #3

Tesoro requests a correction to the definition of "Best Management Practices (BMP) plan" in Section VI. of the permit.

Response: The inclusion of this definition is a typographical error in the permit. This term need not be defined for the Tesoro permit, and it has been deleted from the final permit.

F. Other Permit Requirements and Issues

Comment #1

Cook Inlet Keeper submitted the following comments regarding the Tesoro permit application:

(1) Tesoro's application contains incomplete and/or erroneous characterization of the "commingled" 001A refinery process wastewater and the remediation effluent. EPA never sought correction of the erroneous numbers.

(2) Tesoro's application did not identify maximum 30 day averages or long term values of specific pollutant parameters. This failure denies adequate data exposition needed for treatability and BPJ-BAT decisions.

(3) Under maximum flow conditions, the remediation effluent act as a diluent for other toxic materials in the refinery effluent. As a result, dilution from the remediation effluent undermines the analysis of Tesoro's effluent.

Response: (1) EPA's requested the amended Form 2C application in 1999 to update the water quality-based evaluation for this discharge. This evaluation is conducted using concentration values for the discharge rather than mass loadings (water quality criteria are expressed as concentrations). The concentration calculations in Tesoro's submittal were accurate.

EPA agrees that Tesoro's submittal included errors in the mass loadings calculations. These errors were not important with respect to the proposed permit, because mass loading values were neither needed nor used during permit

development. Nevertheless, Tesoro has corrected the mass loading values in its most recent revision to the application (October 2000).

(2) EPA has not conducted, nor is it required to conduct, evaluations of treatability for this facility's wastewater using 30 day average or long term average values. See also comments on establishing technology-based limitations. The commenter does not provide an indication of how EPA should use such information for this permit.

(3) The commenter provides no supporting information for the assertion that dilution from the remediation effluent undermines the analysis of Tesoro's effluent. As described in the fact sheet for the draft permit, EPA's water quality evaluations and "reasonable potential" calculations account for variability in discharges.

Comment #2

The proposed discharge violates the enforceable policies of the Alaska Coastal Management Program (ACMP) and the Kenai Peninsula Borough Coastal Management Program without additional review.

Response: The state of Alaska reviewed the permit and issued a finding of consistency with the ACMP standards and the applicable enforceable policies of the Kenai Peninsula Borough district program on March 22, 2001. Further concerns regarding this issue should be raised in the appropriate state forum.

Comment #3

Any final permit issued by EPA Region 10 and any certification issued by ADEC should include a delayed effective date of at least 30 days after the date the public is notified of a final action.

Response: By regulation (40 CFR 124.15), when comments are received on a draft NPDES permit, the final permit is not effective until 30 days after the issuance date.

Comment #4

Groundwater treatment system standard operating procedures include weekly in-house monitoring of benzene in remediation influent and effluent (using a non-EPA approved methodology) to detect any increasing benzene concentrations. Given this operational monitoring, Tesoro requests that the required frequency for benzene monitoring in the permit be reduced to once per month.

Response: While EPA supports the operations monitoring conducted by Tesoro, EPA does not agree that monthly monitoring for the permit is adequate. The remediation effluent is a significant new waste stream for this permit, and EPA believes that weekly monitoring to determine compliance with the permit limit is warranted.

Comment #5

The permit requires DMRs to be postmarked by the 10th day of the following month. Final analytical reports (including toxicity reports) are often received after the 10th day of the following month. This requires submittal of DMR amendments in follow-up). Tesoro requests test report submittal be required within some timeframe (e.g., two weeks) following its receipt of these reports.

Response: Tesoro's requested "floating" submittal date does not provide assurance of timely submittal of DMRs and toxicity tests; it would also be inconsistent with other NPDES permits in Alaska. However, EPA recognizes that the postmark requirement (10th day) can be difficult to achieve on a consistent basis for some permitted facilities. Therefore, EPA has changed the postmark requirement to the 20th day. In order to achieve timely submittals of toxicity testing reports, EPA recommends testing early in the month to allow time for report writing and submittal.

Comment #6

The Kenai Peninsula Borough Planning Commission defers to ADEC and EPA regarding the technical aspects of the proposed permit. Provided the proposed permit meets state and federal standards, it appears to be consistent with the Borough Coastal Management Program policies.

Response: Comment noted.

Comment #7

The village of Port Graham will continue to remind EPA that Port Graham Bay is a recognized Area Meriting Special Attention with the Coastal Zone Management Plan with the Kenai Peninsula Borough. We will take every action possible to protect our traditional resources from the ocean.

Response: Comment noted.

Comment #8

Permits need to be processed in a more timely manner. Old permits are unacceptable.

Response: EPA strives to re-issue permits in as timely a manner as possible with the resources at its disposal.

Comment #9

Permits for public review should summarize the permit for community members who do not possess the technical knowledge.

Response: EPA agrees with the goal of educating community members who do not have a technical background. In its documents, EPA attempts to communicate the basic features of the permit. In addition, EPA provides the name, phone number, and email address of the permit writer for interested parties to contact with any questions.

Comment #10

What solids or liquids are not regulated and allowed to empty into Cook Inlet?

Response: EPA does not evaluate every pollutant in a wastewater discharge. Rather, EPA evaluates a large number of pollutants that are known to impact human health and the environment. Based on the analysis described in the Fact Sheet, EPA establishes limits and monitoring for pollutants that show a reasonable potential to exceed water quality standards outside any authorized mixing zone.

In part to address the potential for impacts from unmonitored substances, EPA requires the facility to conduct whole effluent toxicity tests to determine whether the discharge as a whole has any toxic effects on aquatic life.

Comment #11

How often are companies checked for potential violations, and what does EPA do when a company violates the permit? Is there enough authority in the permits to stop the industry from wrongful doings?

Response: Facilities are required to submit monthly reports that contain all the monitoring information required under the permit, and EPA maintains this information in a computer tracking system. EPA also inspects facilities on an annual basis to evaluate facility operations, monitoring, and recordkeeping. EPA's response to violations depends on the nature and severity of the violation. The permit sets forth the range of potential penalties for specific types of violations (Part IV. B). EPA believes Section 309 of the Clean Water Act provides ample enforcement

authority to deter permittees from violating permit conditions. In addition, Section 505 of the Clean Water Act provides authority for citizens to enforce permit violations.

Comment #12

Are there any concerns about sewer discharge from this industry?

Response: Tesoro does not discharge domestic wastewater.

Comment #13

The comment period should be extended to allow full public participation.

Response: EPA extended the comment period an additional 30 days in response to requests from Cook Inlet Keeper and Ninilchik Tribe.

Comment #14

Tesoro requests that "dioxin" be clarified to read "2,3,7,8-TCDD".

Response: EPA has made this clarification in the final permit.

Comment #15

The problems with the draft permit cannot be resolved without significant additional revisions and re-publication of the public notice.

Response: EPA disagrees that the revisions to the draft permit are significant enough to warrant a re-publication of a revised draft. As indicated in this Response to Comments document, EPA has made only modest revisions to the permit based on public comments. Therefore, EPA does not believe re-publication and another comment period is warranted in this case.