



# Fact Sheet

Public Comment Start Date: June 19, 2006  
Public Comment Expiration Date: August 4, 2006

**The U.S. Environmental Protection Agency (EPA)  
Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit to  
Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to the**

**Tesoro Alaska Petroleum Company  
Kenai Pipeline Facility**

**and the State of Alaska Proposes to Certify the Permit**

**Technical Contact:**

Robert Rau  
206-553-6285  
800-424-4372, ext. 6285 (within Alaska, Idaho, Oregon and Washington)  
rau.rob@epa.gov

**EPA Proposes to Reissue NPDES Permit**

EPA proposes to reissue an NPDES permit to the Tesoro Alaska Petroleum Company (Tesoro), formerly known as the Kenai Pipeline Company. The draft permit places conditions on the discharge of pollutants from the ballast water treatment plant to the Cook Inlet, a marine water of the United States. In order to ensure protection of water quality and human health, the permit places limits on the types and amounts of pollutants that can be discharged from the facility.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- a listing of proposed effluent limitations and other conditions for the facility
- a map and description of the discharge location
- technical material supporting the conditions in the permit

**Alaska State Certification**

EPA is requesting that Alaska Department of Environmental Conservation (ADEC) certify the NPDES permit for this facility, under section 401 of the Clean Water Act. The state has already submitted a preliminary section 401 certification prior to the public notice. Comments regarding the certification should be directed to:

Alan Kulka  
Alaska Department of Environmental Conservation  
555 Cordova Street  
Anchorage, Alaska 99501 (alan\_kukla@dec.state.ak.us)

### **Public Comment**

Persons wishing to provide comment on, or request a public hearing on the draft permit for this facility may do so in writing by the expiration date of the public comment period. A request for a public hearing must state the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for public hearings must be in writing and should be submitted to EPA as described in the public comments section of the attached public notice.

After the public notice expires and all comments have been considered, EPA's regional Director for the Office of Water and Watersheds will make a final decision regarding permit issuance. If no substantive comments are received, the tentative conditions in the draft permit will become final, and the permit will become effective upon issuance. If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date, unless an appeal is submitted to the Environmental Appeals Board within 30 days.

### **Documents are Available for Review**

The draft NPDES permit and related documents can be reviewed or obtained by visiting or contacting EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday at the address below. The draft permit, fact sheet, and other information can also be found by visiting the Region 10 NPDES website at "<http://epa.gov/r10earth/waterpermits.htm>."

United States Environmental Protection Agency, Region 10  
1200 Sixth Avenue, OWW-130  
Seattle, Washington 98101  
(206) 553-0523 or  
Toll Free 1-800-424-4372 (within Alaska, Idaho, Oregon and Washington)

The draft permit and fact sheet are also available at:

EPA Alaska Operations Office  
Room 537 Federal Building  
222 West 7th Avenue, #19,  
Anchorage, Alaska 99513

and at the following ADEC state offices:

ADEC  
555 Cordova Street  
Anchorage, Alaska, 99501

ADEC  
4335 Kalifornsky Beach Rd., Suite11  
Soldotna, Alaska 99669

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## Acronyms

ADEC	Alaska Department of Environmental Conservation
AML	Average Monthly Limit
AWL	Average Weekly Limit
BOD <sub>5</sub>	Biochemical Oxygen Demand, five-day
°C	Degrees Celsius
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EFH	Essential Fish Habitat
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
GAC	Granular Activated Carbon
KPL	Kenai Pipeline Company
mg/L	Milligrams per liter
ml	Milliliters
ML	Minimum Level
µg/L	Micrograms per liter
mgd	Million gallons per day
MDL	Maximum Daily Limit or Method Detection Limit
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
OWW	Office of Water and Watersheds
QAP	Quality Assurance Plan
s.u.	Standard Units
Tesoro	Tesoro Alaska Petroleum Company
TMDL	Total Maximum Daily Load
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)

TSS Total Suspended Solids  
USFWS U.S. Fish and Wildlife Service  
USGS United States Geological Survey  
WLA Wasteload Allocation  
WQBEL Water Quality-based Effluent Limit

## **I. Applicant**

### **A. General Information**

This fact sheet provides information on the draft NPDES permit for the following entity:

Tesoro Alaska Petroleum Company (Kenai Pipeline Company)  
Ballast Water Treatment Plant  
NPDES Permit No. AK-000105-8

Mailing Address:  
P.O. Box 3369  
Kenai, Alaska 99611

Physical Address:  
54741 Tesoro Rd (Mile 22 Kenai Spur Hwy)  
Kenai, Alaska 99611

Contact:  
Scott Rosin, Environmental Compliance Coordinator  
(907) 776-3597

### **B. Cause for Reissuance**

The current permit expired on October 24, 1984, and has been administratively extended since that time pursuant to 40 CFR 122.6(a). EPA received the application for reissuance prior to permit expiration, which was updated in June 1994.

## **II. Facility Information**

### **A. General Information**

The Tesoro Alaska Petroleum Company (Tesoro) owns and operates a refinery on the western shores of the Kenai Peninsula approximately 60 miles southwest of Anchorage, Alaska, in the town of Nikiski. The refinery receives feed stocks from Cook Inlet and North Slope oil fields via tanker shipments and pipeline, in addition to some tanker shipments of Indonesian crude oil. The Kenai Pipeline Company (KPL), now a wholly owned subsidiary of Tesoro, was originally established to move crude oil in pipelines from area oil fields to local refineries in Nikiski. KPL also used the Nikiski marine terminal to unload and store crude oil, to ship refined products, and to treat petroleum contaminated ship ballast water prior to discharge. Tesoro now has two NPDES permits for their Nikiski operations. This permit (AK-000105-8) covers primarily treated ballast water prior to discharge to Cook Inlet, and was originally issued to KPL. Permit No. AK-000084-1 covers all wastewater discharges related to the refinery itself.

Currently, none of the tanker ships that operate through the Nikiski terminal have segregated compartments for oil and ballast water. As a consequence, oil and sea water are commingled in the same holding compartment, and while the two remain segregated with the water on bottom, ballast water becomes contaminated with petroleum related compounds that must be treated prior to discharge. During high seas, particularly in the winter, empty or partially full tankers are forced to take on sea water as ballast to stabilize the ship. The decision on whether or not to take on ballast water, and how much ballast water to carry, is entirely up to the captain of the vessel. In the early 1970's, KPL constructed a ballast water treatment plant just above the beach at the Nikiski wharf/pier. In addition to treating ballast water, petroleum contact, or tank bottom water from crude storage tanks are also treated at this facility. Minor volumes of stormwater that accumulate in the containment area surrounding the ballast water storage tanks are also treated.

## **B. Treatment Process**

The current ballast water treatment system begins when tankers arrive with ballast water that is off loaded and stored in holding tanks (Tanks 2400 and 2406) for phase separation and equalization. Tank bottom water from crude storage is also routed into these holding tanks. A polymer is then added as a flocculent to facilitate phase separation, and depending on the pH, caustic soda may be added for proper pH balancing (8.2 being ideal for the treatment process). Wastewater is then routed to an induced air flotation (IAF) oil/water separator (Wimco) unit. Oil from the oil/water separator is directed to one of two tanks (Tank 412 or 413) where it is recycled to the crude storage tanks. Water from the oil/water separator is sent to a dissolved air flotation tank (Tank 410) for retention and skimming. There are two granular activated carbon (GAC) vessels (3,600 lbs each) in series that are used to polish petroleum contaminated wastewater prior to discharge. Water exiting the carbon vessels passes over a weir box which serves as a visual indicator for the water after it has completed treatment.

Flows through the ballast water treatment system have been extremely variable, and are somewhat weather dependent. Discharges typically occur in batches approximately five to nine times per year, and range from 100,000 gallons to over 300,000 gallons per batch. Since 2001, flows through the system have been generally decreasing with daily volumes ranging from 102,000 gal/day to 16,600 gal/day during a discharge episode. Recently, 2002 had the highest total annual discharge volume from the ballast water treatment plant at 638,400 gallons (15,200 barrels) over the calendar year. As new double hulled tanker ships with segregated ballast compartments come on line, the volume of ballast water is expected to decline in the future. Since flow volumes through the ballast water treatment plant are highly variable, the draft permit does not contain any flow or mass-based effluent limitations. However, the facility will be required to monitor and report flow through the system on a daily, per batch, and annual basis; and account for the source of these wastewaters. In addition, the draft permit contains prohibitions on dilution to achieve concentration-based effluent limits.

While there have been minor upgrades to the ballast water treatment plant, the basic system is 35 years old and there are inefficiencies in the process. Inefficiencies in that sometimes a batch of wastewater can be difficult to process in order to meet current effluent limits (8 mg/L oil and grease), and water must sometimes be re-circulated through the system prior to GAC polishing. After carbon treatment, treated ballast water leaves the plant through an 8-inch pipe where it combines with a 10-inch pipe carrying wastewater from a groundwater treatment system owned and operated by ChevronTexaco (Permit No. AK-000016-7) located at their former refinery site immediately north of the Tesoro property. These treated wastewaters get combined at the foot of the Nikiski pier, and run about 500 feet down the pier where they discharge into Cook Inlet at the base of a support leg in approximately 30 feet of water. For the purposes of effluent sampling and reporting on Discharge Monitoring Reports (DMRs), Tesoro collects samples after crossing the weir and prior to leaving the ballast water treatment plant building.

### **C. Permit and Compliance History**

NPDES Permit No. AK-000105-8 was originally issued to Kenai Pipeline Company in 1973 and expired in 1978. The permit was reissued in October 1979 and expired in October 1984, and has been administratively extended since that time. The existing permit has only oil and grease (8 mg/L daily average & 15 mg/L daily maximum) and pH (6.0 – 9.0) effluents limits with additional narrative standards and monitoring requirements. Since 1995 there have been a total of nine exceedances of oil and grease daily maximum limits, with the highest occurring on May 23, 1996 at 50.4 mg/L. In addition, on December 5, 1995, the facility had an accidental discharge of crude oil via the NPDES discharge line resulting from an overflow of a crude storage tank. An open valve on the stormwater drain in the area of secondary containment allowed oil to flow to a sump and enter an underground pipe that was tied to the NPDES discharge.

## **III. Receiving Water**

As noted above, Tesoro's ballast water treatment plant discharges to Cook Inlet at the base of a support leg the Nikiski pier in about 30 feet of water. The approximate location of the discharge point is 60°41'02" N. latitude, 151°23'15" W. longitude. This portion of Cook Inlet is known as the East Forelands where the width of the inlet narrows to 10 miles of separation between the Kenai Peninsula and the western shores of Cook Inlet.

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet water quality standards by July 1, 1977. Federal regulations at 40 CFR 122.4(d) require that the conditions in NPDES permits ensure compliance with the water quality standards of all affected states. A state's water quality standards are composed of use classifications, numeric and/or narrative water quality criteria, and an anti-degradation policy. The use classification system designates the beneficial uses (such as protection for aquaculture, contact recreation, and aquatic life) that each water body is expected to achieve. The numeric and/or narrative water quality criteria are the criteria



deemed necessary by the state to support the beneficial use classification of each water body. The antidegradation policy represents a three-tiered approach to maintain and protect various levels of water quality and uses. No use designations are listed for the Cook Inlet in 18 AAC 70.230(e). In accordance with Alaska Water Quality Standards (18 AAC 70.050), unless a particular water body has been reclassified or redesignated, all marine waters of the State of Alaska, including the Cook Inlet, are to be protected for the following uses:

- Water Supply (aquaculture, seafood processing and industrial uses)
- Water Recreation (contact and secondary recreation uses)
- Growth & Propagation of Fish, Shellfish, Aquatic Life and Wildlife
- Harvesting for Consumption of Raw Mollusks and other Raw Aquatic Life

#### **IV. Effluent Limitations and Monitoring Requirements**

##### **A. Basis for Effluent Limitations**

The CWA prohibits the discharge of pollutants to waters of the United States without an NPDES permit unless such a discharge is otherwise authorized by the CWA. The NPDES permit is the mechanism used to implement technology and water quality-based effluent limitations and other requirements including monitoring and reporting. NPDES permits are developed in accordance with various statutory and regulatory authorities established pursuant to the CWA. The regulations governing the EPA NPDES permit program are generally found at 40 CFR parts 122, 124, 125, and 136.

Sections 101, 301(b), 304, 308, 401 and 402 of the CWA provide the process and statutory basis for the effluent limitations and other conditions in the permit. EPA evaluates discharges with respect to these sections of the CWA and the relevant NPDES regulations in determining which conditions to include in the permit.

EPA first determines which technology-based limits apply to the discharges in accordance with applicable national effluent guidelines and standards. EPA further determines which water quality-based limits apply to the discharges based upon an assessment of the pollutants discharged and a review of state water quality standards. In general, the CWA requires that the effluent limit for a particular pollutant be the more stringent of either the technology-based limit or the water quality-based limit. Monitoring requirements must also be included in the permit to determine compliance with effluent limitations. For each pollutant, the statutory and regulatory basis for the effluent limits proposed in the draft permit are provided in Appendix A.

##### **B. Proposed Effluent Limitations**

The proposed effluent limits in the draft permit are provided below:

- The permittee must not discharge any substances causing a film, sheen or discoloration on the surface of the water or the adjoining shoreline; or which cause a sludge, solid or emulsion to be deposited on the bottom or adjoining shoreline [18 AAC 70.020(b)(20)(A)].

Table 1 summarizes the proposed average monthly and maximum daily effluent limits.

**Table 1: Proposed Effluent Limits and Monitoring Requirements**

Parameter	Units	Effluent Limits and Monitoring Requirements			
		Maximum Daily Limit	Average Monthly Limit	Monitoring Frequency	Sample Type
BOD <sub>5</sub>	mg/L	48	26	2/batch <sup>4</sup>	Grab
TSS	mg/L	33	21	2/batch <sup>4</sup>	Grab
Oil & Grease	mg/L	15	8	2/batch <sup>4</sup>	Grab
Total Aromatic Hydrocarbons (TAH)	µg/L	10	---	1/batch <sup>4</sup>	Grab
Total Aqueous Hydrocarbons (TAqH)	µg/L	15	---	1/batch <sup>4</sup>	Grab
pH	s.u.	6.5-8.5 at all times		2/batch <sup>4</sup>	Grab
Residue <sup>2</sup>	---	(See Section IV.B.1.)		Daily	Visual
Flow <sup>1</sup>	gpd	---	---	Continuous	Recording
Chemical Oxygen Demand (COD)	mg/L	---	---	1/batch for 4 years <sup>4,5</sup>	Grab
Total Organic Carbon (TOC)	mg/L	---	---	1/batch for 4 years <sup>4,5</sup>	Grab
Chloride	mg/L	---	---	1/batch for 4 years <sup>4,5</sup>	Grab
Whole Effluent Toxicity (WET) <sup>3</sup>	TU <sub>U</sub>	---	---	4x/5 years	Grab
Expanded Effluent Testing <sup>3</sup>	---	---	---	4x/5 years	Grab

Footnotes:

- Flow shall be recorded continuously for each discharge event (batch). Total flow measurements shall be recorded on a daily, per batch, and annual basis. Total flow volume for each discharge must be reported on the DMR form while average daily flows, and batch and annual totals must be reported with the application for permit renewal. Increasing flow for the purposes of dilution is prohibited.
- Residue monitoring must occur at Outfall 001 and occur daily during discharge.
- To be performed once during the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year of the permit. To the extent possible, ballast discharges from different feed stocks shall be sampled (i.e., Cook Inlet, North Slope or Indonesian crude). Expanded effluent and whole effluent toxicity testing must occur on the same day and must correspond with other routine monitoring. Results must be reported with the application for permit renewal.
- If a batch discharge spans more than one reporting (calendar) month, test results for the batch shall be reported on the DMR for the later month.
- Monitoring for COD, TOC and chloride to occur during the 2<sup>nd</sup>, 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> year of the permit. Results must be reported with the application for permit renewal.

### **C. Basis for Effluent Monitoring Requirements**

Section 308 of the CWA and federal regulation 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and/or ambient surface water data to determine if additional effluent limitations are required in the future, and/or to monitor effluent impacts on receiving water quality. The permittee is responsible for conducting the monitoring and for reporting results on Discharge Monitoring Reports (DMRs) or on the application for permit renewal, as appropriate, to EPA.

Very little effluent monitoring data is available from the ballast water treatment plant other than oil and grease and pH sampling as required by the 1979 permit issuance. In order to gain a more comprehensive understanding of the pollutants that may be present in the effluent, the draft permit requires four episodes (events) of expanded effluent and whole effluent toxicity (WET) testing. Expanded effluent testing includes a full priority pollutant scan of the 126 chemicals as listed in 40 CFR 131.36. The draft permit requires this monitoring in the second, third, fourth and fifth year of the permit, and should be timed such that ballast discharges from different feed stocks (i.e., Cook Inlet, North Slope or Indonesian crude) are sampled to the extent possible.

Whole Effluent toxicity is defined as the aggregate toxic effect of an effluent measured directly by an aquatic toxicity test. Due to the unknown cumulative and synergistic effects of pollutants, WET testing is a methodology that allows permits to be protective of the narrative “no toxics in toxic amounts” criterion that is applicable to all waters of the United States, and Alaska state waters (18 AAC 70.030). Accordingly, chronic WET testing has been included in the draft permit as a monitoring requirement. Results from the WET and expanded effluent testing should be submitted to EPA and ADEC with the application for permit reissuance at least 180 days before permit expiration.

Monitoring frequencies (as shown in Table 1) are based on the nature and effect of the pollutant, as well as a determination of the minimum sampling necessary to adequately monitor the facility’s performance. Permittees have the option of taking more frequent samples than are required under the permit. These samples can be used for averaging if they are conducted using EPA-approved test methods (generally found in 40 CFR 136), and if the Method Detection Limits are less than the effluent limits. The sampling location must be after the last treatment unit and prior to discharge to the receiving water. The monitoring samples must not be influenced by combination with other effluent (i.e., ChevronTexaco’s or any other). If no discharge occurs during the reporting period, “no discharge” shall be reported on the DMR.

## **V. Other Permit Conditions**

### **A. Quality Assurance Plan**

Federal regulation at 40 CFR 122.41(e) requires a permittee to develop procedures to ensure that the monitoring data submitted is complete, accurate and representative of the environmental or effluent condition. The facility is required to update its Quality Assurance Plan (QAP) for the ballast water treatment operations within 90 days of the effective date of the final permit. The QAP shall be prepared in accordance with EPA guidance documents EPA QA/R-5 (*EPA Requirements for Quality Assurance Project Plans*) and EPA QA/G-5 (*Guidance for Quality Assurance Project Plans*), and consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The QAP must be retained on site and made available to EPA and ADEC upon request.

### **B. Operation and Maintenance Plan**

The permit requires Tesoro to properly operate and maintain all wastewater treatment facilities, and systems of treatment and control in accordance with industry accepted engineering practices. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times. Tesoro is required to update its Operation and Maintenance Plan for their ballast water treatment operations within 90 days of the effective date of the final permit. The plan shall be retained on site and made available to EPA and ADEC upon request.

### **C Standard Permit Provisions**

Sections II, III, and IV of the draft permit contain standard regulatory language that must be included in all NPDES permits. Because they are regulations, they cannot be challenged in the context of an NPDES permit action. The standard regulatory language covers requirements such as monitoring, recording, and reporting requirements, compliance responsibilities, and other general requirements.

## **VI. Other Legal Requirements**

### **A. Endangered Species Act**

The Endangered Species Act (ESA) requires federal agencies to consult with National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries), and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. As part of the informal consultation process between EPA and NOAA Fisheries, EPA received a letter on October 2, 2005 identifying the Steller sea lion, the Fin Whale and the Humpback Whale as listed under the ESA in the Port Nikiski vicinity. In addition, Cook Inlet beluga whales are listed as depleted under the Marine Mammal Protection Act, and are a species of concern for NOAA Fisheries, and are listed as a candidate species under ESA. NOAA Fisheries also identified several stocks of Columbia River salmonids in Evolutionary Significant Units that may spend portions of their adult lives in the waters of the Gulf of

Alaska and/or Cook Inlet. Overall, EPA has determined that issuance of this permit is *not likely to adversely affect* threatened or endangered species in the vicinity of the discharge. This conclusion is documented in a Biological Evaluation (BE) prepared by EPA in association with this NPDES permitting action, and has received concurrence from NOAA Fisheries. In a letter dated October 12, 2005, the USFWS indicated that there were no listed species or critical habitats within their jurisdiction in the Port Nikiski area.

#### **B. Essential Fish Habitat**

Essential Fish Habitat (EFH) are the waters and substrates (sediments, etc.) necessary for fish to spawn, breed, feed, or grow to maturity. The Magnuson-Stevens Fishery Conservation and Management Act (January 21, 1999) requires EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH. The EFH regulations define an adverse effect as any impact which reduces quality and/or quantity of EFH; and may include direct (e.g. contamination or physical disruption), indirect (e.g. loss of prey, reduction in species' fecundity), site specific, or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions. EPA has prepared an EFH assessment which is included as part of the BE (EPA 2006) prepared for the Tesoro permit reissuance

#### **C. State Certification**

Section 301(b)(1)(C) of the CWA requires that an NPDES permit contain conditions which ensure compliance with applicable state water quality standards. The effluent limits in the draft permit for TAH, TAqH, residue and pH were established pursuant to Alaska Water Quality Standards (18 AAC 70). Section 401 of the CWA requires that states certify that federally issued NPDES permit are in compliance with state law, including the antidegradation policy (18 AAC 70.015). A draft CWA section 401 certification has been issued by the State of Alaska, Department of Environmental Conservation, for the reissuance of the Tesoro NPDES Permit No. AK-000105-8 (Kenai Pipeline ballast water treatment facility).

If the State authorizes different requirements into their final certification, EPA will incorporate those requirements into the permit. For example, if ADEC authorizes a mixing zone for WQBELs in its final certification, EPA will recalculate the effluent limitations in the final permit based upon the dilution available in the final mixing zone.

#### **D. Alaska Coastal Management Program**

EPA has determined that discharges authorized by the draft permit are consistent with the Coastal Zone Management Act, 16 USC § 1451 *et seq.*, and is requesting that the Alaska Department of Natural Resources (ADNR), Office of Project Management and Permitting (OPMP) review and concur with its consistency determination. On May 5, 1986, the KPL ballast water discharge was found to be consistent with the Alaska Coastal Management Program (ACMP); however, changes in the ACMP review standards since 1986 warrant a new review. EPA anticipates concurrence from ADNR OPMP regarding

its determination of consistency with the statewide standards. The ADNR OPMP was provided a copy of the draft permit and fact sheet, and their 50 day public notice period began on June 2, 2006. Persons wishing to comment on the ACMP consistency review can view the ADNR OPMP public notice on-line at <http://notes5.state.ak.us/pn/pubnotic.nsf/0/bb619ddd8a7bf1d58925718100706ee8?OpenDocument>. For more information on the ACMP consistency review, contact Ben Greene at (907) 269-7474.

#### **E. Ocean Discharge Criteria Evaluation**

Section 403 of the CWA, and federal regulations at 40 CFR 125 Subpart M, require NPDES permits for discharges into offshore waters, including territorial seas and federal waters, to comply with Ocean Discharge Criteria for determining potential degradation of the marine environment. The Ocean Discharge Criteria are intended to “prevent unreasonable degradation of the marine environment and to authorize imposition of effluent limitations, including a prohibition of discharge, if necessary, to ensure this goal” (49 FR. 65942; October 3, 1980).

Section 502(8) of the CWA defines *territorial seas* as “the belt of the seas measured from the line of ordinary low water along that portion of the coast which is in direct contact with the open sea and the line marking the seaward limit of the inland waters, and extending seaward a distance of three miles”. The *inner boundary* or *baseline* of the territorial sea is the line of ordinary low water along that portion of the coast which is in direct contact with the open sea. However, places such as upper Cook Inlet which are salt (marine) water are not considered “open sea”. In these areas, including Port Nikiski, the ordinary low water mark is not the inner boundary or baseline of the territorial sea, but rather at a “closure line” that separates the ocean (including territorial seas) from inland waters including Cook Inlet. Because Outfall 001 at Port Nikiski is inside the inner boundary or baseline of the territorial sea, an Ocean Discharge Criteria Evaluation (ODCE) is not required.

#### **F. Spill Prevention Control and Countermeasures Plan**

The permittee must comply with federal regulations at 40 CFR 112, Oil Pollution Prevention, including the preparation of a Spill Prevention Control and Countermeasure (SPCC) Plan. The CWA and the Oil Pollution Act of 1990 (OPA), 33 U.S.C.A. §§ 2701 to 2761, maintain overlapping statutory authorities for controlling oil and oil related pollution into waters of the United States.

#### **G. Antidegradation**

In setting permit limits, EPA must consider the State’s antidegradation policy (18 AAC 70.015). Under this policy, existing water quality and water uses must be protected and maintained even if the existing quality is higher as compared to the standard unless the state grants a variance. Variances can be authorized in the form of a mixing zone, using site specific criteria, or under special circumstances determined necessary to accommodate special economic or social development.

The effluent limits in the draft permit are based upon current water quality criteria and/or technology-based effluent limits that have been shown not to cause or contribute to an exceedance of water quality standards. Accordingly, the discharges as authorized in the draft permit will comply with the State's antidegradation requirements.

#### **H. Permit Expiration**

The permit will expire five years from the effective date.

### **VII. References**

- Alaska Administrative Code. 2003. *Water Quality Standards*. Alaska Department of Environmental Conservation, Title 18, Chapter 70.
- Alaska Administrative Code. 2003. *Wastewater Disposal*. Alaska Department of Environmental Conservation, Title 18, Chapter 72.
- Alaska Department of Environmental Conservation. 2003. *Alaska Water Quality Criteria Manual for Toxic and Other Deleterious Organic and Inorganic Substances*.
- EPA. 1991. *Technical Support Document for Water Quality-based Toxics Control*. US Environmental Protection Agency, Office of Water, EPA/505/2-90-001.
- EPA. 2001. EPA Requirements for Quality Assurance Project Plans, EPA QA/R-5. EPA/240/B-01/003. March 2001.
- EPA. 2002. Guidance for Quality Assurance Project Plans, EPA QA/G-5. EPA/240/R-02/009. December 2002.
- EPA. 2006. Biological Evaluation for Tesoro Alaska Petroleum Company (Kenai Pipeline Facility), national Pollutant discharge elimination System Permit AK-000105-8. December 2006.

## **Appendix A: Basis for Effluent Limits**

Effluent limitations were summarized in Section IV. of this fact sheet. The following discussion explains in more detail the statutory and regulatory basis for the technology and water quality-based effluent limits in the draft permit. Part A discusses technology-based effluent limits, Part B discusses water quality-based effluent limits (WQBELs).

### **A. Technology-based Effluent Limits**

Section 301 of the CWA requires particular categories of industrial dischargers to meet technology-based effluent limitation guidelines. The intent of a technology-based effluent limitation is to require a minimum level of treatment for industrial point sources based on currently available treatment technologies while allowing a discharger to choose and use any available control technique to meet the limitations.

The CWA initially focused on the control of "traditional" pollutants (conventional pollutants and some metals) through the use of Best Practicable Technology (BPT). Permits issued after July 1, 1977, must include any conditions necessary to ensure that the BPT level of pollution control is achieved. BPT limitations are based on effluent limitation guidelines (ELGs) developed by EPA for specific industries. Where EPA has not yet developed guidelines for a particular industry, permit limitations may be established using Best Professional Judgment (BPJ) [40 CFR 122.43, 122.44, 125.3, and 402(a)(1)].

Section 301(b)(2) of the CWA also requires further technology-based controls on effluents. After March 31, 1989, all permits are required by CWA 301(b)(2) and 301(b)(3) to contain effluent limitations for all categories and classes of point sources which: 1) represent Best Conventional Technology (BCT); and, 2) control toxic pollutants and nonconventional pollutants through the use of Best Available Technology Economically Achievable (BAT). BCT effluent limitations apply to conventional pollutants (pH, BOD, oil and grease, suspended solids and fecal coliform). BAT effluent limitations apply to toxic and nonconventional pollutants. Toxic pollutants are those listed in 40 CFR 401.15 and 131.36. Nonconventional pollutants include all pollutants not included in the toxic and conventional pollutant categories, such as ammonia and total residual chlorine. In no case may BCT or BAT be less stringent than BPT. Like BPT requirements, BAT and BCT permit conditions may be established using BPJ procedures in the absence of effluent limitations guidelines for a particular industry.

EPA has been developing ELGs for existing industrial and commercial activities since 1972 as directed in the original Federal Water Pollution Control Act (40 CFR 403 through 471 inclusive). For ballast water treatment plants associated with the Petroleum Refining Point Source Category, ELGs were promulgated in 40 CFR § 419 Subpart A for BAT/BCT on October 18, 1982, as amended at 50 FR 28522, July 12, 1985. These technology-based effluent limits are summarized below in Table A-1.



**Table A-1. Technology-Based Effluent Limits for Ballast Water Treatment Plants**

Parameter	Maximum Daily Limit	Average Monthly Limit	Range
BOD <sub>5</sub>	48 mg/L	26 mg/L	---
TSS	33 mg/L	21 mg/L	---
Oil and Grease	15 mg/L	8 mg/L	---
pH	---	---	6.0 - 9.0 s.u.

In addition to the technology limits shown in Table A-1, 40 CFR 419 Subpart A also identifies limits for chemical oxygen demand (COD) when the chloride ion concentration in the effluent is less than 1,000 mg/L (47 mg/L daily maximum & 24 mg/L monthly average). Where chloride ion concentrations exceed 1,000 mg/L, EPA may substitute total organic carbon (TOC) as a parameter in lieu of COD. A TOC effluent limitation shall be based on effluent data from the particular facility which correlates TOC to BOD<sub>5</sub>. Since adequate effluent data is not available for KPL to make this assessment, COD, TOC and chloride have been added as monitoring requirements to further characterize the effluent.

**B. Water Quality-based Effluent Limits**

*Statutory and Regulatory Basis*

Section 301(b)(1)(C) of the CWA requires the development of limitations in permits necessary to meet and protect state water quality standards by July 1, 1977. Discharges to state or tribal waters must also comply with limitations imposed by the state or tribe as part of its certification of NPDES permits under section 401 of the CWA. Federal regulations at 40 CFR 122.4(d) prohibit the issuance of an NPDES permit that does not ensure compliance with the water quality standards of all affected states. The NPDES regulation (40 CFR 122.44(d)(1)) implementing Section 301(b)(1)(C) of the CWA requires that permits include limits for all pollutants or parameters which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state or tribal water quality standard, including narrative criteria for water quality.

NPDES regulations require the permitting authority to make this evaluation using procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant in the effluent, species sensitivity (for toxicity), and where appropriate, dilution in the receiving water. The limits must be stringent enough to ensure that water quality standards are met, and must be consistent with any available wasteload allocation.

Provided below is a discussion of the WQBELs included in the draft permit.

*pH*

The most stringent water quality criteria for pH are for the protection of aquatic life and aquaculture water supply [18 AAC 70.020(b)(18)]. The pH criteria for these uses state that the pH must be no less than 6.5 and no greater than 8.5 standard units, and may not vary more than

0.2 pH units outside of the naturally occurring range. These limits are more stringent than the technology-based effluent limits (6.0 – 9.0) that are in the 1979 permit issuance, and have been adopted in the draft permit accordingly. It is anticipated that the facility will be able to comply with these limits.

### ***Petroleum Hydrocarbons***

Water supply for aquaculture is the most restrictive water quality criteria for petroleum hydrocarbons where total aqueous hydrocarbons (TAqH) may not exceed 15 µg/L and total aromatic hydrocarbons (TAH) may not exceed 10 µg/L [18 AAC 70.020(b)(17)(A)(i)]. TAqH refers to the collective dissolved and water-accommodated monoaromatic and polynuclear aromatic petroleum hydrocarbons that are dissolved in the water. TAqH does not include floating surface oil or grease. TAH is the sum of the following volatile monoaromatic hydrocarbon compounds: benzene, toluene, ethylbenzene and the xylene isomers (commonly called BTEX).

TAH and TAqH effluent limits in the draft permit are applied at end-of-pipe with no mixing zone. This is consistent with the 2004 permit issuance to the Cook Inlet Pipeline Company, Drift River Terminal, which is a ballast water treatment plant located directly across Cook Inlet from Nikiski and has identical petroleum hydrocarbon limits. Recognizing that these new effluent limits may create operational difficulties for Tesoro at the ballast water treatment plant, the draft permit contains a two year compliance schedule to achieve these new limits.

### ***Residues***

The Alaska water quality standards [18 AAC 70.020(b)(20)] require that discharges “ may not, alone or in combination with other substances, cause a film, sheen, or discoloration on the surface of the water or adjoining shorelines; cause leaching of toxic or deleterious substances; or cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines”. Therefore, EPA has included a narrative limitation prohibiting the discharge of such residues in the draft permit. Visual monitoring for residues is required on a daily basis during discharge episodes, and shall be conducted from the pier above Outfall 001. Observed residues must be reported in the “Comment” section on the DMR form.