



Fact Sheet

The U.S. Environmental Protection Agency (EPA)

Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) General permit to Discharge Pollutants Pursuant to the Provisions of the Clean Water Act (CWA) to:

**Oil and Gas Exploration Facilities
In the federal waters of Cook Inlet**

Public Comment Start Date: **August 7, 2026**

Public Comment Expiration Date: **September 21, 2026**

THE EPA PROPOSES TO REISSUE THE NPDES PERMIT

The EPA proposes to reissue the NPDES General Permit for the facilities referenced above. The draft permit places conditions on the discharge of pollutants from the wastewater treatment plant to waters 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 (FS) 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

SUMMARY OF PROPOSED CHANGES

- Clarifications to Quality Assurance Plan (QAP) requirements
- Clarifications to termination requirements
- Clarification to Cold Water Intake Structure (CWIS) requirements

PUBLIC COMMENT

Persons wishing to comment on, or request a Public Hearing for, the draft permit 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 the EPA as described below.

By the expiration date of the public comment period, all written comments and requests must be submitted to EPAR10WD-NPDES@epa.gov with the subject line "Comments on Draft NPDES Permit AKG285100."

After the Public Notice expires, and all comments have been considered, the EPA 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 substantive comments are received, the EPA will address the comments and issue the permit.

Pursuant to Section 509(b)(1) of the Clean Water Act, 33 U.S.C § 1369(b)(1), any interested person may appeal the permit in the Ninth Circuit Court of Appeals within 120 days following notice of the EPA's final decision for the permit.

DOCUMENTS ARE AVAILABLE FOR REVIEW

The draft NPDES permit, Fact Sheet, Ocean Discharge Criteria Evaluation, and other information can be downloaded from the internet at <https://www.epa.gov/npdes-permits/about-region-10s-npdes-permit-program>.

The draft Administrative Record for this action contains any documents listed in the References section. The Administrative Record or documents from it are available electronically upon request by emailing EPAR10WD-NPDES@epa.gov.

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ACRONYMS

AML	Average Monthly Limit
AMSA	Area Meriting Special Attention
AWL	Average Weekly Limit
BA	Biological Assessment
BAT	Best Available Technology economically achievable
BCT	Best Conventional pollutant control Technology
BE	Biological Evaluation
BO or BiOp	Biological Opinion
BOD ₅	Biochemical oxygen demand, five-day
BOD _{5u}	Biochemical oxygen demand, ultimate
BOEM	U.S. Bureau of Ocean Energy Management
BMP	Best Management Practices
BPT	Best Practicable
°C	Degrees Celsius
CBOD ₅	Carbonaceous Biochemical Oxygen Demand
CFR	Code of Federal Regulations
CFS	Cubic Feet per Second
CSO	Combined Sewer Overflow
CV	Coefficient of Variation
CWA	Clean Water Act
DMR	Discharge Monitoring Report
DO	Dissolved oxygen
EA	Environmental Assessment
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FR	Federal Register
GP	General Permit
GPD	Gallons per day
HUC	Hydrologic Unit Code
ICIS	Integrated Compliance Information System
LA	Load Allocation
lbs/day	Pounds per day
LC	Lethal Concentration

LC ₅₀	Concentration at which 50% of test organisms die in a specified time period
LD ₅₀	Dose at which 50% of test organisms die in a specified time period
LOEC	Lowest Observed Effect Concentration
LTA	Long Term Average
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
MPN	Most Probable Number
N	Nitrogen
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observable Effect Concentration
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NSPS	New Source Performance Standards
O&M	Operations and maintenance
ODCE	Ocean Discharge Criteria Evaluation
POTW	Publicly owned treatment works
PSES	Pretreatment Standards for Existing Sources
PSNS	Pretreatment Standards for New Sources
QAP	Quality Assurance Plan
RP	Reasonable Potential
RPM	Reasonable Potential Multiplier
RWC	Receiving Water Concentration
SIC	Standard Industrial Classification
SPCC	Spill Prevention and Control and Countermeasure
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
s.u.	Standard Units
TBEL	Technology based effluent limit
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TOC	Total Organic Carbon

TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TSD	Technical Support Document for Water Quality-based Toxics Control (EPA/505/2-90-001)
TSS	Total suspended solids
TU _a	Toxic Units, Acute
TU _c	Toxic Units, Chronic
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UV	Ultraviolet
WD	Water Division
WET	Whole Effluent Toxicity
WLA	Wasteload allocation
WQBEL	Water quality-based effluent limit
WQS	Water Quality Standards

I. BACKGROUND INFORMATION

A. GENERAL INFORMATION

This General Permit will authorize discharges from oil and gas exploration facilities in federal waters in Cook Inlet. 40 CFR 122.28(c) requires the EPA to issue general NPDES permits covering discharges from offshore oil and gas facilities. For federally leased lands, the general permit area should generally be no less extensive than the lease sale area defined by the Department of the Interior.

Federal waters are one of three classifications of waters within Cook Inlet. The first two described are state waters and the third is federal waters. Coastal waters are the waters within the baseline (north of Kalgin Island); activities within coastal waters are permitted by the State of Alaska. Territorial seas are waters located from the baseline seaward three miles; similar to coastal waters, activities within the Territorial Seas are also permitted by the State of Alaska. Federal waters are located seaward of the territorial seas and are also called the contiguous zone or ocean; activities within federal waters are permitted by the EPA.

B. PERMIT HISTORY

The most recent NPDES general permit for Oil and Gas Exploration Facilities Located in federal waters in Cook Inlet (NPDES permit No. AKG51000) was issued on July 29, 2015, became effective on September 1, 2016, and expired on August 31, 2021.

There was one facility that submitted a timely and complete Notice of Intent (NOI) under the 2016 permit, Hilcorp Alaska LLC. Therefore, pursuant to Title 40 Code of Federal Regulations (CFR) 122.6, permit coverage for this facility is administratively continued until a new general permit is issued. The facility has not begun operations, thus, there have not been any discharges under the 2016 Cook Inlet Exploration General Permit (GP).

C. CHANGES RELATIVE TO PRIOR PERMIT

The draft permit proposes the following changes relative to the prior permit:

- Clarifications to the Quality Assurance Plan (QAP) requirements
- Clarifications to termination requirements
- Clarification to Cold Water Intake Structure (CWIS) requirements

D. TRIBAL CONSULTATION

The EPA consults on a government-to-government basis with federally recognized Tribal governments when the EPA actions and decisions may affect Tribal interests. Meaningful Tribal consultation is an integral component of the federal government's general trust relationship with federally recognized Tribes. The federal government recognizes the right of each Tribe to self-government, with sovereign powers over their members and their territory. Executive Order 13175 (November 2000) entitled "Consultation and Coordination with Indian Tribal Governments" requires federal

agencies to have an accountable process to assure meaningful and timely input by Tribal officials in the development of regulatory policies on matters that have Tribal implications and to strengthen the government-to-government relationship with Indian Tribes. In December 2023, the EPA issued the “EPA Policy on Consultation with Indian Tribes”, which updated national guidelines and institutional controls for consultation.

The EPA sent notification of the plan to reissue the permit on November 18, 2025, and offered formal government-to-government consultation on February 19, 2026 to the following Alaska Native Villages: Chickaloon Native Village, Ekultna Native Village, Kenaitze Indian Tribe, Knik Village, Native Village of Nanwalek, Native Village of Tyonek, Ninilchik Village, Native Village of Port Graham, Seldovia Village Tribe, and the Salamatof Tribe. Included with the invitation for tribal consultation were copies of the preliminary-draft permit and supporting fact sheet. The EPA held an informational webinar for these Cook Inlet Tribes on March 11, 2026.

Section V.A.3.e of this fact sheet describes the Tribal Ecological Knowledge used for development of the 2007 permit which was carried forward to the draft permit.

II. COVERED FACILITIES AND DISCHARGES

The draft permit authorizes and places conditions on certain discharges from oil and gas exploration facilities that are located within the federal waters of Lower Cook Inlet, described in more detail below.

A. TYPES OF FACILITIES AND TYPICAL DISCHARGES

Exploratory operations are conducted to determine the nature of potential hydrocarbon reserves. Drilling is the main activity during exploration operations. Typical wastewater discharges include those listed in Section II.D, below. In general, exploration facilities do not discharge waterflood wastewater, produced water, or well treatment fluids.

B. AREAS OF COVERAGE

1. Area Included

The draft permit covers oil and gas exploration facilities located in the federal waters of Cook Inlet bounded on the west by a line from Chinitna Point to Cape Douglas (in Kamishak Bay), on the south by a line extending between Cape Douglas (at 58° 51' N latitude, 153° 15' W longitude) to the north tip of Shuyak Island (at 58°37' N latitude, 152°22' W longitude) and on the east by an arc between the north tip of Shuyak Island and Port Chatham (at 59° 13' N latitude, 151° 47' W longitude). The area of coverage is shown in Appendix A of the fact sheet.

2. Prohibited Areas

The permit maintains the discharge prohibitions from the 2016 permit:

- Shoreward of the 10 meter mean lower low water isobath. The draft permit prohibits these discharges because shallow water discharges are less

dispersed than in deeper water and thus have a greater potential to impact the abundant aquatic life found in these shallower waters.

- Within 20 nautical miles of Sugarloaf Island as measured from a centerpoint at latitude 58° 53' N, longitude 152° 02' W. Sugarloaf Island is a Stellar sea lion rookery that was designated as critical habitat. The critical habitat includes an aquatic zone that extends 20 nautical miles (37km) seaward from the island. See 58 Fed. Reg. 45278 (September 27, 1993); see also 50 CFR 226.12(c)(1). Therefore, the draft permit does not authorize discharges within 20 nautical miles of Sugarloaf Island.
- In Kamishak Bay, west of a line from Cape Douglas to Chinitna Point. This includes areas of high resource value and areas adjacent to high resource value areas. In addition, Kamishak Bay is a known net depositional environment where drilling mud solids and other pollutants would likely accumulate if discharges were authorized.
- In Shelikof Strait, south of a line between Cape Douglas on the west (latitude 58° 51' N, 153° 15' W) and the northernmost tip of Shuyak Island on the east (latitude 58°37' N, 152°22' W). The National Oceanic and Atmospheric Administration – Fisheries (NOAA Fisheries) has designated Shelikof Strait as a special aquatic foraging area for the Stellar Sea Lion. Therefore, the draft permit does not authorize discharges in the Shelikof Strait area.
- Within the boundary or within a 4,000 meter buffer surrounding the boundary of the Former Port Graham/Nanwalek Area Meriting Special Attention (AMSA). The area is restricted due to the importance of the area for subsistence hunting, fishing, and food gathering.

C. FACILITIES AUTHORIZED TO DISCHARGE

The draft permit authorizes the discharge of the waste streams listed in Section II.D., below, subject to the conditions and requirements set forth in the draft permit. Since exploratory wells do not generally discharge produced water, the draft permit does not authorize the discharge of produced water from exploratory facilities. The 2016 permit limited exploratory operations to a maximum of five wells per site and the draft permit retains this limitation.

40 CFR 122.29 defines a new source as a facility that meets the definition of new source in 40 CFR 122.2 and is constructed at a site at which no other source is located, among other factors. Construction of a new source begins when significant site preparation work has begun. 40 CFR 122.29(b)(4)(i). 40 CFR 435.11(w) clarifies that for offshore oil and gas facilities, “significant site preparation work” means “the process of surveying, clearing or preparing an area of the water body floor for the purpose of...placing a development or production facility.” The preamble to the offshore oil and gas effluent limitation guidelines clarify that exploratory activities are not considered “significant site preparation work” because these activities are not necessarily followed by development or production activity at a site. 58 FR 12454, 12457. Only new sources are required to

comply with NEPA. Therefore, since exploration facilities are not considered new sources, a NEPA evaluation is not required for the issuance of this General Permit.

D. AUTHORIZED DISCHARGES

The draft permit authorizes the discharges from the following waste streams:

Table 1. Authorized Discharges	
Outfall Number	Discharge
001	Drilling Fluids and Drill Cuttings
002	Deck Drainage
003	Sanitary Wastes
004	Domestic Wastes
005	Desalination Unit Wastes
006	Blowout Preventer Fluid
007	Boiler Blowdown
008	Fire Control System Test Water
009	Non-Contact Cooling Water
010	Uncontaminated Ballast Water
011	Bilge Water
012	Excess Cement Slurry
013	Mud, Cuttings, Cement at the Seafloor

III. OBTAINING AUTHORIZATION TO DISCHARGE UNDER THIS GENERAL PERMIT

A. APPLICATION

40 CFR 122.28(b)(2)(i) requires operators seeking coverage under a general permit to submit a Notice of Intent (NOI) to be covered by the general permit. Submitting a complete and timely NOI fulfills the NPDES permit application requirements.

B. NOTICE OF INTENT (NOI)

40 CFR 122.28(b)(2)(ii) requires that the NOI contain information necessary for adequate program implementation. The following information must be provided in the NOI:

1. Applicant Information. The draft permit requires the applicant to provide the owner's or operator's legal name, mailing address, contact name, and telephone

number. The draft permit also requires the applicant to provide the facility's name, mailing address, contact name, and telephone number.

2. Location of discharge. The draft permit requires the applicant to provide the name of the lessor (i.e. BOEM); the lease and block numbers of operations and discharges; the latitude, longitude, and the GIS coordinates of the facility; the range of water depths below mean lower low water (MLLW) in the lease block; and the water depths for each discharge. In addition, the draft permit requires the applicant to provide the type of drilling rig used for exploratory operations (i.e. jackup, drillship, semisubmersible, etc.).

Mobile facilities may operate in an area, rather than at a specific location. The applicant must request this type of coverage in their NOI, provide a map and description of the area of coverage, and the latitude, longitude, and GIS coordinates of the initial location of the facility. Written notification is required prior to moving the facility and must include the latitude, longitude, and GIS coordinates of the new location.

3. Commencement date of discharge. The draft permit requires the applicant to provide the initial date and expected duration of operations.
4. Environmental reports. The draft permit requires the applicant to provide copies of any exploration plans, biological surveys, and environmental reports required by BOEM. If these documents do not exist, the draft permit requires the applicant to provide notice that such documents do not exist.
5. Wells. The draft permit requires the applicant to submit the following for each well: the initial date of drilling, the well name, the well number (i.e. #1, #2, etc.), the latitude, longitude, and GIS coordinates of each well, the well hole diameter, the category of mud(s) used (e.g. lignosulfonate muds, lime muds, etc.), the solids removal process, and a complete Drilling Fluids Plan.
6. Discharges. The draft permit requires each applicant to identify the types and estimated volumes of discharges from the facility. In addition, the draft permit requires the applicant to indicate the type of sanitary discharge that will occur, if any (i.e. M10 or M9IM).
7. Line Drawing. The draft permit requires that the applicant submit a line drawing showing the flow of waste streams from the facility.

C. DEADLINES FOR SUBMITTING NOI

The 2016 permit required each applicant to submit an NOI at least 45 days prior to the commencement of discharges from a facility. The draft permit retains this condition.

D. DATE OF AUTHORIZED DISCHARGE

40 CFR 122.2(b)(2)(iii) requires a general permit to specify the date(s) when it authorizes an applicant to begin discharging. The draft permit authorizes a facility to begin

discharging when the applicant receives written authorization from the EPA. The written authorization will also assign the facility an NPDES permit number.

E. TRANSFERS

Under 40 CFR 122.41(l)(3), permit coverage for a given facility may be transferred from an existing owner to a new owner with notification to the EPA. The draft permit would authorize such transfers only for an existing facility located at the site designated in the original NOI. Discharge authorizations for a particular facility may not be transferred to a new facility at the same site, nor do they apply to the same facility at a new location.

F. TERMINATION NOTIFICATION

The EPA may terminate coverage under a NPDES permit for the reasons, and using the procedures, provided in 40 CFR 122.64.

If a permittee wishes to terminate coverage, the draft permit requires the permittee to provide notice of termination to the EPA. The notice must include certification that the facility is not subject to an enforcement action or citizen suit. The notice must also include any final reports required by the permit.

G. REQUIRING AN INDIVIDUAL PERMIT

40 CFR 122.28(b)(3) provides situations where the EPA may require, or the discharger may request, an individual NPDES permit. These situations are included in Part I.H. of the draft permit.

IV. BASIS FOR PERMIT CONDITIONS

The CWA requires that NPDES permits include effluent limitations that require the discharger to: (1) to meet standards reflecting levels of technological capability, (2) comply with EPA-approved state water quality standards, (3) comply with other State requirements adopted pursuant to CWA § 510 and (4) cause no unreasonable degradation to the territorial seas, contiguous zone, or ocean. In general, the CWA requires that the effluent limits for a particular pollutant be the more stringent of either technology-based effluent limits (TBELs) or WQBELs. TBELs are set according to the level of treatment that is achievable using available technology. A WQBEL is designed to ensure that the WQS applicable to a waterbody are being met and may be more stringent than TBELs.

CWA § 308 and 40 CFR 122.44(i) require monitoring in permits to determine compliance with effluent limitations. Monitoring may also be required to gather effluent and surface water data to determine if additional effluent limitations are required and/or to monitor effluent impacts on receiving water quality.

Monitoring frequencies 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 must be used for averaging if they are conducted using EPA-approved test methods (generally found in 40 CFR Part 136) or as specified in the permit.

A. TECHNOLOGY-BASED LIMITS

For conventional pollutants, CWA § 301(b)(1)(E) requires the imposition of effluent limitations based on best conventional pollutant control technology (BCT). For nonconventional and toxic pollutants, CWA § 301(b)(2)(A), (C), and (D) require the imposition of effluent limitations based on best available technology economically achievable (BAT). CWA § 301(b) requires compliance with BCT and BAT no later than March 31, 1989.

The EPA has promulgated final ELGs specifying BCT, BAT, best practicable control technology currently available (BPT), and New Source Performance Standards (NSPS) for the Offshore Subcategory of the Oil and Gas Point Source Category. 40 CFR Part 435, Subpart A. These ELGs were published in the Federal Register (FR) on March 4, 1993. 58 FR 12454 (March 4, 1993). The EPA modified the ELGs to add technology-based standards for discharges associated with the use of synthetic-based drilling fluids in 2001. See 66 FR 6850 (Jan. 22, 2001).

B. WATER QUALITY-BASED LIMITS

1. Limits Based on State Water Quality Standards

CWA § 301(b)(1)(C) requires that NPDES permits contain the necessary limitations and monitoring requirements to ensure compliance with State water quality standards. State water quality standards apply only in Coastal Waters and Territorial Seas; they do not apply in the federal waters covered by this draft permit.

2. Limits Based on Ocean Discharge Criteria

CWA § 403 requires NPDES permits for discharges into federal waters (southern Cook Inlet in the case of this permit) to comply with the Ocean Discharge Criteria for determining the potential for unreasonable degradation of the marine environment. See 40 CFR Part 125, Subpart M.

Under the Ocean Discharge Criteria, the EPA may issue an NPDES permit if it determines that a discharge will not cause unreasonable degradation to the marine environment. If insufficient information exists to make such a determination prior to permit issuance, the EPA may only issue the permit if the discharge will not cause irreparable harm to the marine environment while additional monitoring is undertaken, and if there are no reasonable alternatives to on-site disposal.

An Ocean Discharge Criteria Evaluation (ODCE) has been prepared to assist in determining whether the discharges will cause unreasonable degradation to the marine environment. The EPA has considered the factors set forth in 40 CFR § 125.122 in the ODCE.

3. Summary of Legal Basis for Limits

The table below summarizes the regulatory basis for the limitations and conditions in the draft permit.

Table 2. Regulatory Basis for Permit Limitations	
Discharge & Permit Condition	Statutory Basis
flow rate limitations	CWA § 403
depth related limits	CWA § 403
Volume	CWA § 308
Drilling Fluids Plan	CWA §§ 308, 304, 402
Toxicity	CWA § 435.13
no free oil	CWA § 435.13, 435.14
no oil-based fluids	CWA §§ 435.12, 435.13, 435.14
no diesel	CWA § 435.13
mercury & cadmium in barite	CWA § 435.13
monitor metals	CWA § 308
inventory of added substances	CWA § 308
environmental monitoring requirement	CWA § 403
Deck Drainage (002)	
no free oil	CWA §§ 435.12, 435.13, 435.14
monitor whole effluent toxicity (direct discharge only)	CWA § 308
Sanitary Wastes (003)	
chlorine (facilities >10 people)	CWA § 435.14
no floating solids	CWA § 435.14
monitor flow rate	CWA § 308
Marine Sanitation Devices (fecals, solids, chlorine)	CWA § 312
Domestic Wastes (004)	
no foam	CWA § 435.13
no floating solids	CWA § 435.14
monitor flow rate	CWA § 308
Miscellaneous Discharges (005-013)	

monitor flow rate (all)	CWA § 308
no free oil (006, 010, 011, 012, 013)	CWA § 435.12
inventory chemicals added (005 - 011)	CWA § 308

V. EFFLUENT LIMITATIONS AND MONITORING

Error! Reference source not found. below, presents the effluent limits and monitoring requirements proposed in the draft permit. There are no changes in the effluent limits and monitoring requirements from the 2016 permit

Table 3. Effluent Limitations and Monitoring Requirements for Drilling Fluids and Drill Cuttings (Discharge 001)

Discharge	Pollutant Parameter	Effluent Limitations	Monitoring Requirements	
		Average Monthly and Maximum Daily Limits	Measurement Frequency	Sample Type
Water-based fluids and cuttings	* Suspended Particulate Phase toxicity ¹	Minimum 96-hour LC ₅₀ of 30,000 ppm	Monthly and End-of-Well ²	Grab
	* Free oil	No discharge ³	Daily	Grab
	* Diesel oil	No discharge	Daily and End-of-Well ⁴	Grab
	*Mercury	1 mg/kg ⁵	Once per well	Grab
	*Cadmium	3 mg/kg ⁵	Once per well	Grab
	Volume (mgal)	Report average monthly, maximum daily and monthly total	Monthly	Estimate
	Depth Dependent Discharge Rate 0 to 5 meters >5 to 20 meters >20 to 40 meters >40 meters	No discharge 500 barrels per hours (bbl/hr) 750 bbl/hr 1,000 bbl/hr	Continuous during discharge	Estimate
Non-aqueous fluids	Drilling fluids	No discharge	Daily	Observation
Non-aqueous stock base fluid (C ₁₆ -C ₁₈ internal olefin, C ₁₂ -C ₁₄ ester or C ₈ ester)	*Mercury	1 mg/kg ⁵	Annual	Grab
	*Cadmium	3 mg/kg ⁵	Annual	Grab
	*Polynuclear Aromatic Hydrocarbons (PAH)	mass ratio ⁶ < 1x10 ⁻⁵	Annual	Grab
	Sediment toxicity	ratio ⁷ < 1.0	Annual	Grab
	Biodegradation rate	ratio ⁸ < 1.0	Annual	Grab
	Volume (mgal)	Report average, maximum and total	Monthly	Estimate
Non-Aqueous Drilling Fluids which adhere to drill cuttings (Offshore Subcategory Only)	* Free Oil	No discharge ³	Daily	Grab
	* Diesel oil ⁴	No discharge	Daily	Grab
	* SPP toxicity ¹	Minimum 96-hour LC ₅₀ of 30,000 ppm	Monthly and End of Well	Grab
	Sediment toxicity	Drilling fluid sediment toxicity ratio ⁹ < 1.0	Annual	Grab
	Formation oil	No discharge ¹⁰	Daily	Grab
	Base fluid retained on drill cuttings ¹⁴ (C ₁₆ -C ₁₈ internal olefin stock ¹¹)	6.9 g NAF base fluid/100 g wet drill cuttings ¹²	Daily ¹³	Grab
	Base fluid retained on drill cuttings ¹⁴ (C ₁₂ -C ₁₄ ester or C ₈ ester stock)	9.4 g NAF base Fluid/100 g wet drill cuttings ¹²	Daily ¹³	Grab
	Volume (mgal)	Report average monthly, maximum daily and monthly total	Monthly	Estimate

Footnotes:

* Parameters marked with an asterisk are subject to the 24-hour reporting requirements of Permit Part **Error! Reference source not found.**

¹ As determined by the 96-hour suspended particulate phase (SPP) toxicity test. See 40 CFR Part 435, Subpart A, Appendix 2.

² At the end-of-well, a sample must be collected for toxicity testing where no mineral oil is used. This sample can also serve as the monthly monitoring sample.

³ As determined by the Static Sheen Test. See Permit Part **Error! Reference source not found.** and 40 CFR Part 435, Subpart A, Appendix 1.

- 4 See Permit Part **Error! Reference source not found.** for Daily and Permit Part **Error! Reference source not found.** for End of Well.
- 5 Dry weight in the stock barite. Analysis shall be conducted using EPA Methods 245.5 or 7471b for mercury and 200.7 for cadmium. The permittee must analyze a representative sample of stock barite once prior to drilling each well and submit the results with the DMR for the month in which drilling operations commence for the respective well. If the permittee uses the same supply of stock barite to drill subsequent wells, the permittee may submit the same analysis for those subsequent wells. (See Permit Part **Error! Reference source not found.**)
- 6 $\text{PAH mass ratio} = [\text{mass (g) of PAH (as phenanthrene)}] \div [\text{mass (g) of stock base fluid}]$ as determined by EPA method 1654, Revision A, entitled "PAH Content of Oil by HPLC/UV," December 1992. See Permit Part **Error! Reference source not found.**
- 7 $\text{Base fluid sediment toxicity ratio} = [10\text{-day LC}_{50} \text{ of C}_{16}\text{-C}_{18} \text{ internal olefin, C}_{12}\text{-C}_{14} \text{ ester or C}_8 \text{ ester}] \div [10\text{-day LC}_{50} \text{ of stock base fluid}]$ as determined by ASTM E1367–99 method: "Standard Guide for Conducting Static Sediment Toxicity Tests with Marine and Estuarine Amphipods" (1999), after preparing the sediment according to the method specified at 40 CFR Part 435, Subpart A, Appendix 3. See Permit Part III.B. Results of up to 3 tests may be averaged to determine compliance, using 2 samples from the same lot of stock fluids. Equivalent aliquots of one homogenized sample must be split by laboratory (parts 1A and 1B) and tested separately if averaging is used. Permittees may show compliance based on test results from part 1A or from the rounded arithmetic average of the test results from part 1A and 1B. Permittees may also test the second sample for compliance. Where the second sample is analyzed, operators will determine compliance using the arithmetic average of the results from all 3 tests. Permittees must report the appropriate number on the DMR. With the DMR, the permittee must submit documentation showing how the number was calculated and all applicable test reports.
- 8 $\text{Biodegradation rate ratio} = [\text{cumulative gas production (ml) of C}_{16}\text{-C}_{18} \text{ internal olefin, C}_{12}\text{-C}_{14} \text{ ester or C}_8 \text{ ester}] \div [\text{cumulative gas production (ml) of stock base fluid}]$, both at 275 days as determined by ISO 11734:1995 method: "Water quality - Evaluation of the 'ultimate' anaerobic biodegradability of organic compounds in digested sludge--Method by measurement of the biogas production (1995 edition)" as modified for the marine environment. See Permit Part **Error! Reference source not found.** Results of up to 3 tests may be averaged to determine compliance, using 2 samples from the same lot of stock fluids. Equivalent aliquots of one homogenized sample must be split by laboratory (parts 1A and 1B) and tested separately if averaging is used. Permittees may show compliance based on test results from part 1A or from the rounded arithmetic average of the test results from parts 1A and 1B. Permittees may also test the second sample for compliance. Where the second sample is analyzed, operators will determine compliance using the arithmetic average of the results from all 3 tests. Permittees must report the appropriate number on the DMR. With the DMR, the permittee must submit documentation showing how the number was calculated and all applicable test reports.
- 9 $\text{Drilling fluid sediment toxicity ratio} = [4\text{-day LC}_{50} \text{ of C}_{16}\text{-C}_{18} \text{ internal olefin}] \div [4\text{-day LC}_{50} \text{ of drilling fluid removed from drill cuttings at the solids control equipment}]$ as determined by ASTM E1367–99 method: "Standard Guide for Conducting Static Sediment Toxicity Tests with Marine and Estuarine Amphipods" (1999), after preparing the sediment according to the method specified in Permit Appendix C. Results of up to 3 tests may be averaged to determine compliance, using 2 grab samples collected no more than 15 minutes apart. Equivalent aliquots of the first, homogenized sample must be split by the laboratory (parts 1A and 1B) and tested separately if averaging is used. Permittees may show compliance based on test results from part 1A or from the rounded arithmetic average of the test results from parts 1A and 1B. Permittees may also test the second sample for compliance with this limit. Where the second sample is analyzed, operators will determine compliance using the arithmetic average of the results from all 3 tests. Permittees must report the appropriate number on the DMR. With the DMR, the permittee must submit documentation showing how the number was calculated and all applicable test reports.
- 10 As determined before drilling fluids are shipped offshore by the GC/MS compliance assurance method (see Permit Part **Error! Reference source not found.**), and as determined prior to discharge by the Reverse Phase Extraction (RPE) method (see Permit Part **Error! Reference source not found.**) applied to drilling fluid removed from drill cuttings. If the operator wishes to confirm the results of the RPE method, the operator may use the GC/MS compliance assurance method (Permit Part **Error! Reference source not found.**). Results from the GC/MS compliance assurance method shall supersede the results of the RPE method.
- 11 This limitation is applicable only when the NAF base fluid meets the stock limitations defined in this table.
- 12 As determined by the American Petroleum Institute (API) retort method. See Permit Part **Error! Reference source not found.**
- 13 Monitoring must be performed at least once per day when generating new cuttings. Operators conducting fast drilling (*i.e.*, greater than 500 linear feet advancement of the drill bit per day using non-aqueous fluids) must collect and analyze one set of drill cuttings samples per 500 linear feet drilled, with a maximum of three sets per day. Operators must collect a single discrete drill cuttings sample for each point of discharge to the ocean. The weighted average of the results of all discharge points for each sampling interval will be used to determine compliance.
- 14 Averaged over all well sections.

Table 4. Effluent Limitations and Monitoring Requirements for Deck Drainage (Outfall 002)				
Parameter	Units	Effluent Limitations	Monitoring Requirements	
			Sample Frequency¹	Sample Type
Free Oil	---	No Discharge	Daily	Visual
Free Oil ²	---	No Discharge	Once/Discharge event ³	Grab
WET ^{4,5}	TU _c	Report	Once during first year of coverage	See Part IV.A.
Flow	mgd	Report	Monthly	Estimated
Footnotes: 1. When discharging. 2. If discharge occurs during broken or unstable ice conditions or during stable ice conditions, the Static Sheen Test must be used (see 40 CRF 435 Subpart A, Appendix 1) and a grab sample is required. 3. The monitoring frequency is reduced to weekly if the permittee has complied with this requirement for three consecutive months. 4. Contaminated deck drainage must be processed through an oil-water separator prior to discharge (See Permit Part II.C.2.) and samples for that portion of the deck drainage collected from the separator effluent must be sampled for WET testing. 5. Sample must be collected during a significant rainfall or snow melt.				

Table 5. Effluent Limitations and Monitoring Requirements for Domestic Wastewater (Outfall 004)				
Effluent Parameter	Effluent Limitations		Monitoring Requirements	
	Average Monthly Limit	Maximum Daily Limit	Sample Frequency	Sample Type
Flow Rate	Report		1/Month	Estimate
Floating Solids	No Discharge		1/Day ²	Visual
Foam	No Discharge		1/ Day ²	Visual
Footnotes:				
1. In cases where sanitary and domestic wastes are mixed prior to discharge, and sampling of the sanitary waste component stream is infeasible, the discharge may be sampled after mixing.				
2. The permittee must monitor by observing the surface of the receiving water in the vicinity of the discharge(s) during daylight at the time of maximum estimated discharge. For domestic waste, observations must follow either the morning or midday meal.				

Table 6. Effluent Limitations and Monitoring Requirements for Miscellaneous Discharges (Outfalls 005-013)

Parameter	Effluent Limitations		Monitoring Requirements	
	Average Monthly Limit	Maximum Daily Limit	Sample Frequency ¹	Sample Type
Flow (mgd)	Report		Monthly	Measured
Free Oil ^{2, 3}	No discharge	No discharge	Once/Week	Visual
Free Oil ⁴	---	No Discharge	Once/Discharge Event	Grab
Chemical Additives	See permit Part II.F.2.b.		Monthly	Calculation
WET ⁵	See permit Part II.F.2.c.		Once/Quarter ⁶	Grab

Footnotes:

1. When discharging.
2. Miscellaneous discharge is limited to those times that a visible sheen observation is possible unless the operator uses the static sheen method which would require a grab sample. Monitoring must be performed using the visual sheen method on the surface of the receiving water once per week during periods of slack tide when discharging, or by use of the static sheen method at the operator's option. The number of days a sheen is observed must be recorded.
3. If discharge occurs during broken or unstable ice conditions or during stable ice conditions, the Static Sheen Test must be used (see 40 CFR 435 Subpart A, Appendix 1) and a grab sample is required. A water temperature that approximates surface water temperatures after breakup shall be used.
4. In addition to the visual sampling, Bilge Water (011) must be sampled by the static sheen method at least once per discharge event (see Permit Part II.F.2.).
5. Applicable to all discharges to which chemical additives have been added, except Discharges 012 (excess cement slurry) and 013 (mud, cuttings, cement at the seafloor).
6. The required monitoring frequency for WET is reduced to once per six months if the permittee has not exceeded the triggers for 4 consecutive sampling events. If the permittee subsequently exceeds the triggers, the increased monitoring provisions of Permit Part IV.A. shall apply. permittees meeting the requirements for reduced monitoring must report the monitoring frequency on the DMR.

A. BASIS FOR EFFLUENT LIMITS AND MONITORING REQUIREMENTS

1. Technology-Based permit Requirements (TBELs)

The draft permit contains technology-based limitations and conditions as required under the ELGs. The ELGs establish BCT, BAT, and BPT for the Offshore Subcategory of the Oil and Gas Extraction Point Source Category. See 40 CFR Part 435, Subpart A. This section describes the associated technology-based limitations and monitoring requirements for the individual waste streams that the draft permit authorizes.

a. Drilling Fluids & Drill Cuttings (001)

Drilling Fluids

The technology-based limitations for drilling fluid discharges in the draft permit are based on the ELGs establishing BAT for Cook Inlet. The draft permit retains the limitations from the 2016 permit.

Based on the ELGs, the draft permit, like the 2016 permit and the 2007 permit, includes the following limits and prohibitions: (1) no discharge of free oil; (2) no discharge of diesel oil; and (3) a toxicity limit of 3% by volume. The draft permit limits the discharge of organic contaminants through these free oil and diesel oil discharge prohibitions, and by restricting the use of mineral oil in drilling fluids. Permittees must measure free oil in drilling fluid discharges using the static sheen test method. The method for assuring diesel is not present has been updated from the method for GC analysis described in “Analysis of Diesel Oil in Drilling Fluids and Drill Cuttings” (CENTEC, 1985) to EPA SW846 Method 8015C (2007). Permittees must measure toxicity using a 96-hour LC50 on the suspended particulate phase using the *Leptachoirus plumniosus* species.

Stock barite, which is added to drilling fluids as a weighting agent, contains cadmium and mercury. Barite is the main source of heavy metals in drilling fluid discharges. Pursuant to the ELGs, the draft permit, like the 2016 and 2007 permits, establishes effluent limitations for cadmium and mercury of 3 mg/kg and 1 mg/kg, respectively. The draft permit requires permittees to report cadmium and mercury concentrations measured in the stock barite before it is added to the drilling fluids, using EPA Method 245.5 or 7471 for mercury and EPA Method 200.7 for cadmium. The technology-based limits for cadmium and mercury are surrogate parameters for other metals contained in the barite.

The draft permit retains the 2016 and 2007 permit prohibitions on discharges of oil-based drilling fluids, inverse emulsion drilling fluids, oil-contaminated drilling fluids, and drilling fluids to which mineral oil has been added. The purpose of these prohibitions is to ensure compliance with the toxicity limit and the prohibition against the discharge of free oil. The draft permit allows an exception (Permit Part II.B.3.a.) to those prohibitions for drilling fluids to which a mineral oil pill has been added. A pill is defined as a discrete amount of mineral oil circulated through a well to free stuck pipe.

The draft permit prohibits all discharges of non-aqueous based drilling fluids, also known as synthetic-based drilling fluids except when non-aqueous based drilling fluids adhere to drill cuttings (40 CFR 435, Subpart A).

While drilling is under way, the volume of drill cuttings and drilling fluids discharged depends on the rate at which wells are drilled, the depth of the well and the resulting volume of cuttings that are brought to the surface. When drilling is completed, facilities typically discharge the remaining drilling fluids in bulk.

The draft permit requires the development and implementation of a Drilling Fluids Plan. The basis for the Drilling Fluids Plan requirement is CWA §§ 308 and 403(c). The Drilling Fluids Plan requirement is also based upon the Pollution Prevention Act (PPA) and its policy of prevention, reduction, recycling, and treatment of wastes (PPA § 102(b)) through measures that include process modification, materials substitution, and improvement of management (PPA § 107(b)(3)).

A goal of the Drilling Fluids Plan is to ensure that personnel on-site are knowledgeable about the information needed and the methods required to formulate the drilling fluids/additive systems to meet the effluent toxicity limit and minimize the addition of toxic substances.

The Drilling Fluids Plan also requires clearly stated procedures for situations where additives not originally planned for or included in the toxicity estimations are proposed for use later, and whether any new additive may be used and discharged. The criteria for making changes to the additive make up of a drilling fluid system must be specified in the Drilling Fluids Plan.

Drill Cuttings

The main source of pollutants in drill cutting discharges come from drilling fluids that are used in drilling a well, which then adhere to the drill cuttings. Therefore, the draft permit, like the 2016 and 2007 permits, subjects drill cuttings discharges to the same limits that apply to drilling fluid discharges (40 CFR Part 435).

As noted above, the draft permit authorizes the discharge of drill cuttings generated using synthetic-based drilling fluids. The use of synthetic-based fluids is a type of pollution prevention technology because the drilling fluids are not disposed of through bulk discharge at the end of drilling. Instead, the drilling fluids are brought back to shore and refurbished so that they can be reused. In addition, drilling with synthetic based fluids allows operators to drill a slimmer well and results in less erosion of the well during drilling than when water-based fluids are used. Thus, the volume of drill cuttings that are discharged is reduced. The draft permit requires removal of synthetic-based drilling fluids from the drill cuttings prior to discharge, which is not required when water-based fluids are used.

The ELGs also include limits for sediment toxicity, biodegradation and polynuclear aromatic hydrocarbons (PAHs). 40 CFR 435.13. Although the ELGs do not address specific types of synthetic-based fluids, these limits are incorporated into the draft permit to ensure the use of less toxic fluids that have a higher biodegradation rate.

The draft permit contains the following limits for synthetic-based fluids: (1) For stock synthetic fluids prior to combination with other components of the drilling fluid system, the draft permit imposes limits on PAHs, sediment toxicity (10-day),

and biodegradation rate; (2) Combined fluid components are limited for formation oil contamination, measured using gas chromatography/mass spectrometry (GC/MS); and (3) Drilling fluids that adhere to drill cuttings are limited for sediment toxicity (96-hour), and formation oil contamination as measured by either a reverse phase extraction test or GC/MS.

b. Deck Drainage (002)

For deck drainage discharges, the Offshore ELGs for BPT, BAT and BCT require a limitation of no discharge of free oil as determined by the presence of film, sheen, or a discoloration of the surface of the receiving water (40 CFR 435.12-14). In broken, unstable, or stable ice conditions, the draft permit requires a static sheen test. Treatment through an oil-water separator is required for deck drainage contaminated with oil and/or grease. This limit and requirements were in the 2007 and 2016 permits and are retained in the draft permit.

c. Sanitary Wastewater (003)

For sanitary waste discharges, the Offshore ELGs for BPT and BCT require total residual chlorine to be maintained as close to 1 mg/l as possible for facilities that are continuously manned by ten or more persons (40 CFR 435.12, 435.14). The ELGs also require no discharge of floating solids for offshore facilities that are continuously manned by nine or fewer persons or intermittently manned by any number of persons. These limits were in the 2007 and 2016 permits and are retained in the draft permit.

d. Domestic Wastewater (004)

For domestic wastewater discharges, the ELGs prohibit the discharge of floating solids, garbage or foam and require compliance with 33 CFR Part 151 (40 CFR 435.12-14). This limit was in the 2007 and 2016 permits and has been retained in the draft permit.

e. Miscellaneous Discharges (005 – 013)

The draft permit authorizes the following miscellaneous discharges:

- Desalination unit waste (005)
- Blowout preventer fluid (006)
- Boiler blowdown (007)
- Fire control system test water (008)
- Non-contact cooling water (009)
- Uncontaminated ballast water (010)
- Bilge water (011)
- Excess cement slurry (012)

- Muds, cuttings, and cement at the seafloor (013)

The draft permit limits these discharges to no free oil as monitored by the visual sheen test method. The draft permit requires discharges of bilge water to be treated in an oil-water separator. The draft permit also requires operators to sample bilge water discharges for free oil using the static sheen test method once per discharge event. In addition, the draft permit requires operators to maintain a precise inventory of the type and quantity of chemicals added to any of these discharges. The ELGs do not address these miscellaneous discharges.

i. Chemically-Treated Sea Water and Fresh Water Discharges

Operators use a broad range of chemicals to treat seawater and freshwater used in offshore operations. The available literature shows that more than twenty biocides are commonly used. These include derivations of aldehydes, formaldehyde, amine salt, and other compounds. The toxicity of these compounds to marine organisms as measured with a 96-hour LC50 test is reported to range from 0.4 mg/l to greater than 1000 mg/l. Scale inhibitors are also used to treat seawater and freshwater. The scale inhibitors commonly used are amine phosphate ester and phosphonate compounds. Scale inhibitors are generally less toxic to marine life than biocides with 96-hour LC50 concentrations shown to be from 1,676 mg/l to greater than 10,000 mg/l. 96-hour LC50 values for corrosion inhibitors were reported to range from 1.98 mg/l to 1050 mg/l. See Chemical Treatments and Usage in Offshore Oil and Gas Systems (May 1992).

The draft permit maintains the requirements of the 2016 and 2007 permits to regulate chemically treated sea water and freshwater discharges, which utilized a limitation on the input rather than attempting to limit the discharge of specific biocides, scale inhibitors and corrosion inhibitors. Due to the large number of chemical additives used, it would be very difficult to develop technology-based limits for each individual additive. In addition, if the draft permit were to limit specific chemicals, it could potentially halt the development and use of new and potentially more beneficial treatment chemicals.

Many of the chemicals normally added to seawater or freshwater, especially biocides, have manufacturer's recommended maximum concentrations or EPA product registration labeling. In addition, information obtained from offshore operators demonstrates that it is unnecessary to use any of the chemical additives or biocides in concentrations greater than 500 mg/l. Therefore, the draft permit limits discharges of seawater or freshwater to the most stringent of the following:

- 1) the maximum concentrations and any other conditions specified in the EPA product registration labeling if the chemical additive is an EPA registered product;
- 2) the maximum manufacturer's recommended concentration; or

3) 500 mg/l.

Compliance with this limit is calculated based on the amount of treatment chemicals added to the volume of water discharged.

The draft permit requires permittees to keep an inventory of all chemical additives used for Discharges 005-011. Chemical additives include, but are not limited to, treatment chemicals, biocides, insecticides and corrosion inhibitors. The draft permit also includes requirements for monitoring and reporting of the rates of additive use and locations of use in the processes on the facility.

As with the other miscellaneous discharges described above, the draft permit contains BCT limits prohibiting the discharge of free oil for chemically treated seawater and freshwater discharges. Free oil is a direct measurement of oil contamination, and the draft permit uses it as a surrogate parameter for conventional pollutants in these discharges.

The draft permit retains these limitations and monitoring requirements when treatment chemicals such as corrosion inhibitors or biocides are added. These provisions were included in previous iterations based on best professional judgment (BPJ) analysis and according to CWA § 402(o), a permit may not be reissued to contain effluent limitations which are less stringent than the previous permit.

ii. Cooling Water Intake Structure Discharges

The draft Cook Inlet GP also implements cooling water intake structure provisions of the CWA § 316(b), Phase III regulations (40 CFR Part 125, Subpart N). Subpart N is applicable to all oil and gas facilities that are subject to the offshore or coastal subcategories of the Oil and Gas Extraction Point Source Category (i.e., Subparts A and D), that commenced construction after July 17, 2006, and that meet the definition of a new facility at 40 CFR § 125.83.

f. All Discharges

The draft permit prohibits the discharge of rubbish, trash and other refuse based on the International Convention for the Prevention of Pollution from Ships (MARPOL). The draft permit also prohibits the discharge of sand-blasting waste. Operators typically use management practices such as enclosing areas being sand blasted in tarps to capture and properly dispose of as much of the waste as practicable. The draft permit clarifies that the use of reasonable measures would meet the intent of the discharge prohibition.

2. Water Quality-Based Permit Conditions (WQBELs)

a. Ocean Discharge Criteria

CWA § 403 prohibits issuing an NPDES permit for discharges into marine waters located seaward of the inner boundary baseline of the territorial seas (i.e., state and federal offshore waters) except in compliance with the ocean discharge

guidelines, 40 CFR Part 125, Subpart M. The guidelines set out criteria that the EPA must evaluate to ensure that point source discharges do not cause unreasonable degradation to the marine environment. The criteria are set out in 40 CFR § 125.122.

After the evaluation, the EPA: (a) may issue an NPDES permit if the proposed discharge will not cause unreasonable degradation to the territorial seas, contiguous zones, and oceans (40 CFR § 125.123(a)); (b) will not issue an NPDES permit if the proposed discharge will cause unreasonable degradation (40 CFR § 125.123(b)); or (c) may issue an NPDES permit where there is insufficient information to make an unreasonable degradation determination, if the EPA also determines that the discharge will not cause irreparable harm to the marine environment while further evaluation is undertaken, that there are no reasonable alternatives to on-site discharge, and that the discharge will comply with certain mandatory permit conditions, including a bioassay-based discharge limitation and monitoring requirements (40 CFR § 125.123(c)-(d)).

When reaching a determination that a proposed discharge will not cause unreasonable degradation, the EPA may rely on any necessary conditions specified in 40 CFR § 125.123(d). These conditions include seasonal restrictions on discharges, process modifications, a monitoring program to assess discharge impacts, bioaccumulation tests, and any other conditions deemed necessary because of local environmental conditions. In addition, 40 CFR § 125.123(d)(4) authorizes the EPA to modify or revoke a permit at any time if, based on new data, the EPA determines that continued discharges may cause unreasonable degradation of the marine environment.

The EPA has prepared an ODCE for the proposed Cook Inlet General Permit. The evaluation process informed EPA's permit development process, which resulted in retaining some permit conditions and enhancing others (e.g., environmental monitoring program, chemical additive inventory and limitations, area restrictions, discharge depth restrictions, minimization of the discharge of surfactants, dispersants and detergents etc.). The additional conditions allowed the EPA to reach a determination that authorized discharges will not cause unreasonable degradation to the marine environment.

b. Mixing Zones

Mixing zones are established by the EPA to specify a limited portion of a water body in which otherwise applicable water quality criteria may be exceeded. In federal waters, State standards do not apply; thus, mixing zones are governed solely by the Ocean Discharge Criteria.

As discussed above, Ocean Discharge Criteria must be implemented in NPDES permits for discharges to marine waters beyond the baseline (i.e. the territorial seas, contiguous zones and the oceans). The Ocean Discharge Criteria define mixing zones to be that portion of the water body that extends laterally a

distance of 100 meters from the discharge point but could possibly be redefined. See 40 CFR § 125.121(c). The EPA utilized the dilution from this size mixing zone to establish toxicity triggers for discharges of chemically treated sea water. When data is available from these discharges in federal waters, the EPA will determine whether the definition of mixing zones should be reconsidered. Since there were no discharges under the 2016 permit, the EPA is retaining this provision in the draft permit until there is available data.

3. Water Quality Analysis and Limits

a. Dispersion Modeling

For the 2007 permit, and carried forward in the 2016 permit, the EPA used the CORMIX model to conduct dispersion modeling to analyze and develop the draft permit's dilution factors used to set the trigger levels for Whole Effluent Toxicity (WET). The EPA has found that CORMIX is an appropriate model for discharges authorized under NPDES permits for oil and gas related discharges.

The CORMIX model provides a snapshot of dilution in time. When considering a particular point in time, the current is moving in only one direction. In modeling the dilution-with-distance estimation with CORMIX, it is the magnitude of the current that is important, not its direction, since only positive current speeds are included. The purpose of the modeling is to determine the maximum radius of a discharge at an instant in time. In addition, CORMIX can be used in a wide variety of discharge conditions and is capable of simulating the dispersion of discharges in the far field.

The name given the waterbody in an analysis (whether "estuary" or "ocean") is not determinative of the dilution analysis. The EPA used CORMIX to account for boundary interactions such as the effluent plume becoming trapped in a water column or striking a physical boundary such as the bottom or surface. Other conditions like tidal reversal, slack tides, and tidal reflux were also considered.

b. Chemically Treated Sea Water Discharges

The EPA is including water quality-based requirements for miscellaneous discharges (Outfalls 005 – 011) to which treatment chemicals, such as biocides, are added, in the draft permit. The EPA is including WET monitoring, chronic toxicity triggers, and free oil requirements in the draft permit because they are necessary in order to reach a determination that authorized discharges will not cause unreasonable degradation to the marine environment, as described in the ODCE.

Operators will be able to use treatment chemicals that are most efficient for their operation as long as they will enable the facility to consistently meet effluent limits. While this approach will ensure the protection of water quality, it will also provide maximum flexibility for operators to switch to newer products

that may become available. Therefore, to ensure flexibility, the draft permit does not prescribe specific chemical additives that may be used.

i. Whole Effluent Toxicity Monitoring

The draft permit requires monitoring for toxicity once per quarter during discharge activities of miscellaneous discharges and once during the first year of coverage for deck drainage.

If the effluent analytical results are below the toxicity triggers for four consecutive quarters, the draft permit allows a reduction in toxicity monitoring to once every six months.

If chronic toxicity is detected above the permit trigger values set forth in Permit Part II.F.2, collection and analysis of one additional sample is required within two weeks of receipt of the test results.

If chronic toxicity is detected in the additional sample, then the permittee must conduct accelerated testing consisting of four tests, one every 2 weeks over an eight-week period. If chronic toxicity triggers are exceeded during accelerated testing, the permittee must initiate a toxicity reduction evaluation (TRE).

After accelerated testing is complete, sample collection and analysis will return to quarterly until either monitoring can be reduced or accelerated testing is triggered again.

ii. Chronic Toxicity Triggers

To prevent unreasonable degradation to the marine environment, the EPA calculated toxicity triggers to prevent the discharge of pollutants- that result in chronic toxicity at the edge of a 100-meter mixing zone. If a trigger is exceeded, additional testing and an investigation are required to determine the cause of the exceedance.

For the 2007 permit and carried forward in the 2016 permit, the EPA calculated critical dilutions at which the toxicity limits must be met using the CORMIX model.

Based on suggestions from Robert Doneker, a co-developer of the CORMIX model, the EPA simulated these discharges using a mirror image approach. In the mirror image approach, the discharges were modeled as being denser than sea water and located on the sea floor. The plumes were shown to initially rise from the discharge pipe and then sink back to the seafloor in much the same way that a buoyant plume would initially sink and then float back to the water's surface. The discharge velocities were set at approximately 11 meters per second in an attempt to represent the impacts resulting from discharges being made above the surface. Triggers were also calculated for subsurface discharges. Inclusion of triggers for discharges made both below and above the surface will accommodate any new facilities

that may be placed in Cook Inlet in the future. The modeling results are shown below in TablesTable 7Table 8.

Table 7. Chemically Treated Sea Water Dispersion Modeling Results (Surface Discharges)		
Discharge Rate (gpd)	Critical Dilution	Toxic Units
10,000 to 17,000	0.24%	417
17,001 to 22,000	0.27%	370
22001 to 27,000	0.29%	345
27,001 to 55,000	0.36%	278
55,001 to 150,000	0.46%	217
Greater than 150,000	0.62%	161

Table 8. Chemically Treated Sea Water Dispersion Modeling Results (Submerged Pipe)		
Discharge Rate (gpd)	Critical Dilution	Toxic Units
10,000 to 17,000	0.33%	303
17,001 to 22,000	0.36%	278
22001 to 27,000	0.37%	270
27,001 to 55,000	0.49%	204
55,001 to 150,000	0.62%	161
Greater than 150,000	0.99%	101

Discharges less than 10,000 gallons per day will be very dilute and are not likely to exhibit toxic effects at the edge of the mixing zone so toxicity triggers are not proposed for these discharges.

In the 2016 Fact Sheet, the EPA said that the data submitted during the permit cycle would be evaluated to see if limits were warranted. Since the EPA does not have data from the 2016 permit cycle because there were no discharges during the permit term, the EPA is proposing to retain the triggers in the next permit cycle and will reevaluate the need for WET effluent limitations in the reissuance of the next permit.

iii. Free Oil Limitations

The draft permit limits the discharge of free oil to control the discharge of toxic pollutants contained in oil. Free oil must be monitored weekly while the facility is discharging using the visible sheen method when an observation is possible. If discharge needs to occur when an observation is not possible, the static sheen method is required.

c. Sanitary Wastewater Discharges

As required by the ELG at 40 CFR 435.12 (BCT) and 435.14 (BPT), the draft permit limits the total residual chlorine concentration to a minimum of 1 mg/l and maintained as close to this concentration as possible for facilities continuously manned by ten (10) or more persons.

Since State water quality standards do not apply in federal waters, no maximum total residual chlorine limit is proposed for facilities located in federal waters.

d. Baseline Monitoring Requirements

The 2016 permit required operators of any new facilities installed during its five-year term to conduct baseline monitoring. During the term of the 2016 permit, no new facilities were installed within the area covered by the draft permit.

The Ocean Discharge Criteria requires a full understanding of the potential impacts of permitted discharges. To ensure that the discharges will not result in unreasonable degradation, the draft permit includes the monitoring requirements from the 2016 permit. This monitoring requirement applies to all facilities.

e. Traditional Ecological Knowledge

During the development for the 2007 permit, the EPA facilitated the collection of Traditional Ecological Knowledge from Cook Inlet area tribes, pursuant to Executive Order 13175, Consultation and Coordination with Indian Tribal Governments. The following paragraphs summarize the interview responses.

Numerous Tribal members from multiple villages expressed consistent observations and concerns. In general, these concerns fit into two main categories: (1) the potential for environmental impacts from catastrophic events such as oil spills (especially considering the age of the platforms and associated pipelines) and (2) the effects from routine platform operations that include the discharge of contaminants.

Tribal members frequently noted an overall decline in the population of important subsistence resources and in the quality of the species being caught or harvested. These changes include salmon with thinner and less firm meat and smaller halibut with chalky and fibrous meat. In addition, Tribal members noted a disappearance in bull kelp and a decrease in the abundance of clams, cockles, bidarkis, cod, flounder, crab, shrimp, mussels, algae, seals and sea lions. Clams and mussels were observed to have thinner and sometimes transparent shells. Furthermore, Tribal members observed a higher incidence of red tide that has resulted in a decrease in the community's ability to collect traditional food, including shellfish and octopus. Tribal members also observed a decrease in the number of sea ducks, such as mergansers and scoters. A number of Tribal members noted finding lesions, growths and deformities on fish. Some Tribal members noted that noncommercial fish, such as hooligans and stickelbacks,

have declined in numbers; thus, indicating that commercial and recreational fishing are not the sole causes for the observed decline in population.

The tidal variations in Cook Inlet create a very high energy environment with strong currents. Tribal members noted that mixing pools near Kalgin Island and the mouth of Kachemak Bay result from the tidal currents and cause settling of detritus in those areas. Despite the strong currents, Tribal members observed that Cook Inlet is a fairly closed marine system. While Cook Inlet water is carried north and south by strong tides, there is no mechanism to move contaminants out of Cook Inlet. Because of those characteristics, a number of Tribal members observed a potential for pollutants to accumulate in Cook Inlet over time. Based on that information, the Tribes suggested that the EPA make an effort to learn more about the fate of pollutants discharged from oil and gas operations in Cook Inlet. It is important to note that during the interviews, opposition to oil and gas development was not evident, but rather there was an overall a desire to ensure that oil and gas activities did not affect the health of Cook Inlet natives, traditional foods or the environment. In fact, in numerous interviews, the Tribal members acknowledged that observations made through Traditional Ecological Knowledge could not be directly attributed to oil and gas activities. However, there was a strong sense that the stress from multiple pollution sources, including oil and gas operations affected the health of Cook Inlet natives, traditional foods, and the environment.

The impacts on Tribes include traveling farther to collect food and the inability to obtain a sufficient quantity of traditional food. Since a significant portion of a Tribal member's diet consists of seafood from Cook Inlet, there is increasing concern regarding the impact on health from contaminants that may accumulate in seafood and the effect of eating lower quality fish. This fear has led some parents to stop feeding their children traditional foods.

The Tribal members made numerous comments expressing their lack of confidence in the monitoring that operators have conducted on oil platforms. They questioned how well the 1999 permit requirements were being enforced. In addition, many Tribal members requested that the public be continuously informed regarding platform reporting and compliance.

The EPA agreed that additional information should be gathered regarding the fate of oil and gas discharges and, where appropriate, new limitations and monitoring requirements should be added to the permit to ensure the discharges are properly controlled. To meet these objectives, the 2007 permit imposed the following requirements, retained by the 2016 permit and the draft permit:

1. New limits on the amount of treatment chemicals added and toxicity triggers, for discharges such as cooling water.

2. Required continuing study to gain a better understanding of the potential impacts of the discharges. Specifically, the permit requires operators of all new facilities installed during the five-year term to conduct baseline monitoring.

In addition, the EPA acknowledges that a comprehensive compliance program is a critical component of an effective permit. The EPA will continue to fairly employ the four principles of compliance assurance (*i.e.*, compliance assurance, compliance incentives, compliance monitoring, and enforcement) for the draft permit.

B. ELECTRONIC SUBMISSION OF DISCHARGE MONITORING REPORTS

The draft permit requires that the permittee submit DMR data electronically using NetDMR. NetDMR is a national web-based tool that allows DMR data to be submitted electronically via a secure Internet application.

The EPA currently conducts free training on the use of NetDMR. Further information about NetDMR, including upcoming trainings and contacts, is provided on the following website: <https://netdmr.epa.gov>. The permittee may use NetDMR after requesting and receiving permission from the EPA Region 10.

C. QUALITY ASSURANCE PLAN

The permittee is required to update the Quality Assurance Plan (QAP) within 30 days of the commencement of exploration activities. The QAP must consist of standard operating procedures the permittee must follow for collecting, handling, storing and shipping samples, laboratory analysis, and data reporting. The plan must be retained on site and made available to the EPA upon request.

D. OPERATION AND MAINTENANCE PLAN

The permit requires the permittee to properly operate and maintain all facilities and systems of treatment and control. Proper operation and maintenance is essential to meeting discharge limits, monitoring requirements, and all other permit requirements at all times.

E. STANDARD PERMIT PROVISIONS

Permit Parts IV, V, and VI. contain standard regulatory language that must be included in all NPDES permits. 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 requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened or endangered species. To

meet its obligations under the ESA, the EPA has prepared a Biological Evaluation (BE) to assist in consultation with NMFS and USFWS. The EPA will send the BE to NMFS and USFWS and request concurrence with its determination of effect.

B. ESSENTIAL FISH HABITAT

Essential fish habitat (EFH) is the waters and substrate (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 the EPA to consult with NOAA Fisheries when a proposed discharge has the potential to adversely affect EFH (i.e., reduce quality and/or quantity of 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. Based on information on EFH presented in the BE, the EPA has determined that the discharge will not adversely affect EFH.

The EPA has determined that issuance of this permit will not adversely affect EFH.

C. OIL SPILL REQUIREMENTS

CWA § 311 prohibits the discharge of oil and hazardous materials in harmful quantities. Routine discharges specifically controlled by the draft permit are excluded from the provisions of CWA § 311. However, the draft permit does not preclude the institution of legal action, or relieve permittees from any responsibilities, liabilities, or penalties for other unauthorized discharges of oil and hazardous materials, which are covered by CWA § 311.

D. MARITIME PROTECTION, RESEARCH, AND SANCTUARIES ACT (MPRSA)

No maritime sanctuaries, as designated by the MPRSA, exist in the vicinity of the draft permit coverage area.

E. ANNEX V OF MARPOL (73/78 AND 33 CFR 151.73)

Under Annex V of MARPOL, the U.S. Coast Guard (USCG) has issued final regulations under 33 CFR 151.73 to control the disposal of garbage and domestic wastes from fixed or floating platforms. These regulations include platforms involved in the exploration of oil and gas resources, such as oil drilling rigs and production platforms. These regulations also apply to all oil platforms when these platforms are located in navigable waters of the U.S. or within the 200 mile Exclusive Economic Zone. The draft permit prohibits the discharge of garbage (as defined at 33 CFR Part 151) within 12 miles of the nearest land. The term garbage, as it is applied here, includes operational and maintenance wastes. Beyond 12 miles, the discharge of food wastes that are ground so as to pass through a 25 millimeter mesh screen, incinerator ash, and non-plastic clinkers will be permitted.

F. PERMIT EXPIRATION

The permit will expire five years from the effective date.

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Appendix A. Area of Coverage Map



The U.S. Environmental Protection Agency (EPA) has compiled this coverage representation from data or information sources that may not have been verified by the EPA. This data is offered here as a general representation only and should be used without warranty or guarantee. The EPA does not guarantee the accuracy, completeness, or timeliness of the information shown, and shall not be liable for any loss or injury resulting from reliance upon the information shown.

Area of Coverage Map:
EPA NPDES General Permit for Oil and Gas Exploration Facilities
in the Federal Waters of Cook Inlet, Alaska



11/22/2025 EPA Region 10