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Submitted via e-mail (attachments delivered via CD)

May 22, 2019

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Wastewater Discharge Authorization Program
Alaska Department of Environmental Conservation
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Re: Proposed General Permit No. AKG315200 for Oil and Gas Exploration, Development, and Production in State Waters in Cook Inlet, Alaska

Dear Mr. Brown:

Trustees for Alaska submits these comments on behalf of Cook Inletkeeper, Alaska Community Action on Toxics, Kachemak Bay Conservation Society, Center for Biological Diversity, Natural Resources Defense Council, and Defenders of Wildlife (collectively, “Inletkeeper”) regarding the draft general permit for oil and gas exploration, development, and production facilities in state waters in Cook Inlet. We appreciate the opportunity to provide comments and assist with the Department of Environmental Conservation’s (DEC) review of the proposed permit.

The overarching objective of the Clean Water Act (CWA) “is to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.”¹ To achieve this objective, Congress established several goals, including (1) eliminating the discharge of pollutants into navigable waters by 1985; (2) attaining water quality that provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water by July 1, 1983; and (3) prohibiting the discharge of toxic pollutants in toxic amounts.² Although water quality has improved in many respects since the passage of the CWA, these three goals have not been attained with respect to the oil and gas facilities in Cook Inlet.

Inletkeeper has serious concerns about the ongoing impacts to Cook Inlet and about numerous provisions in the draft permit. The continued protection of water quality in Cook Inlet is of vital significance and importance to the health of present and future Alaskans, the quality of fish and shellfish harvested from Cook Inlet waters, and the marketing of fish and shellfish from Cook Inlet. As the agency now tasked with implementing the Alaska Pollutant Discharge

¹ 33 U.S.C. § 1251(a).

² *Id.*

Elimination System program, DEC has the opportunity to implement measures that are more protective of state waters and resources than in the previous permits issued by the Environmental Protection Agency (EPA). DEC should issue a permit with provisions to ensure that the permit requires the best available technology and effluent limitations that truly protect human health and the environment.

However, DEC has done precisely the opposite. This draft permit is far weaker than previous permits. The breadth of the draft permit is wholly inappropriate and includes numerous facilities that are not properly encompassed within the scope of this permit. DEC's draft permit takes substantial steps backward, particularly with regard to the operation of Cook Inlet Energy's Osprey Platform (Osprey) and the protection of sensitive nearshore areas within Cook Inlet. All of this is occurring against a backdrop where DEC is setting water quality standards (WQS) such as mixing zones at the least restrictive level possible, and is failing to provide any level of meaningful oversight or enforcement for facilities that have continued to violate the terms of their permit. The following sections provide comments on DEC's draft permit and discuss areas where DEC needs to strengthen or substantially revise the draft permit.

I. DEC HAS NOT PROVIDED ADEQUATE TIME OR OPPORTUNITY FOR THE PUBLIC TO EVALUATE THE PROPOSED GENERAL PERMIT OR OVERLAPPING INDIVIDUAL PERMITS.

Although the Cook Inlet General Permit was initially released for public comment earlier this year, DEC also recently released the draft permits related to Hilcorp's Granite Point Platform (Granite Point) and Osprey with 30-day public comment periods that largely overlap with the comment period for the Cook Inlet General Permit.³ These overlapping comment periods relate to discharges that DEC is currently including in both the draft general permit and draft individual permits. This short window of overlapping time was not sufficient for the public

³ The Osprey Platform Permit comment period deadline is May 27, 2019, two working days after the general permit comment deadline, not including the Monday May 27, 2019 due date which falls on the Memorial Holiday. The Granite Point Platform comment period deadline is May 28, 2019, four working days after the general permit comment deadline. Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit — Draft: Hilcorp Alaska, LLC Granite Point Platform Supplemental Development Drilling, Permit No. AK0055883 (2019); Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit Fact Sheet — Draft: Hilcorp Alaska, LLC Granite Point Platform Supplemental Production Drilling, Permit No. AK0055883 (2019); Alaska Dep't of Env'tl. Conservation, Public Notice: Notice of Proposed Issuance of an Alaska Pollutant Discharge Elimination System (APDES) Individual Permit to Discharge to Waters of the United States, Permit No. AK0055883 (2019); Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit — Draft: Cook Inlet Energy, LLC, Osprey Platform, Permit No. AK0053309 (2019); Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit Fact Sheet — Draft: Cook Inlet Energy, LLC, Osprey Platform, Permit No. AK0053309 (2019) [hereinafter 2019 Osprey Individual Permit Fact Sheet]; Alaska Dep't of Env'tl. Conservation, Public Notice: Notice of Proposed Issuance of an Alaska Pollutant Discharge Elimination System (APDES) Individual Permit to Discharge to Waters of the United States, Permit No. AK0053309 (2019).

to adequately understand the nuances of the different permits or to provide meaningful public comments. DEC also failed to provide the full set of data related to the mixing zones when it initially released the mixing zone applications in response to a Public Records Act request. It only released this additional data a few short weeks prior to the close of the comment period, providing almost no time for Inletkeeper and others to analyze the thousands of pages of additional information. Despite this delayed data release and despite requests for DEC to extend the public comment periods, DEC declined to do so. DEC has not provided the public with adequate time to fully understand the implications of these three overlapping permits or to meaningfully engage in this process.

DEC has created substantial confusion for the public by issuing draft individual permits for Osprey and Granite Point, having already released a draft general permit that proposes to encompass these exact same facilities. This overlapping process does not provide transparency or clarity for the public about how these discharges will be treated or monitored by DEC. Given that the draft individual permits contain site specific information, it is more appropriate to address the discharges from Osprey and the Granite Point Platform through individual permits and not through the Cook Inlet General Permit. If that was the intent behind issuing draft individual permits, DEC should clarify that for the public by removing these proposed discharges from the general permit and providing an additional opportunity for the public to weigh in on the draft permit with these significant issues clarified.

II. DEC'S USE OF THE DRAFT PERMIT TO COVER SUCH A BROAD RANGE OF DISCHARGES AND FACILITIES IS INAPPROPRIATE.

The draft general permit's breadth of coverage for permitted activities and facilities is improper. The general permit process should not be used to circumvent the individualized assessments that demonstrate the need for an individual permit. DEC has expanded the scope of the general permit to a level that is inappropriate. The draft permit expands the geographic area, permissible discharges, activities allowed, and the current and future facilities that fall within the scope of the permit. The analysis supporting the changes and permit expansion is inadequate. DEC fails to meet minimum standards to identify discharges with similar characteristics that are appropriately encompassed within the scope of a single general permit.

DEC should significantly limit the discharges and facilities included under the draft permit. A general permit authorizing discharges under the Alaska Pollutant Discharge Elimination System Program (APDES) is only appropriate if the point sources are within the same geographic area and they all:

- (1) involve the same or substantially similar types of operations;
- (2) discharge the same types of wastes;
- (3) require the same effluent limitations or operating conditions;
- (4) require the same or similar monitoring; and
- (5) in the opinion of the department, are more appropriately controlled under a general permit than under individual permits.⁴

⁴ 18 AAC 83.205(b)(2)(A)–(E); *see also* 40 CFR § 122.28(2)(i).

General permits are required to comply with applicable water quality-based limitations for each specified category or subcategory of dischargers.⁵ In addition, “[a] general permit must clearly identify the conditions applicable to each category or subcategory of discharges covered . . . [and] may exclude specified sources or areas from coverage.”⁶

The draft permit expands the facilities and discharges in the current general permit. As discussed in this section, the general permit should not include certain facilities, such as Trading Bay Production Facility (Trading Bay) and Osprey, and should not be expanded to encompass a number of additional discharges and dischargers that were not authorized under the previous iteration of the permit.

A. The Cook Inlet Exemption Does Not Allow Discharges from Onshore Facilities.

There are a number of onshore processing facilities that DEC is proposing to include or that have historically been included within the scope of this general permit. These include Trading Bay, Granite Point Production Facility, the Middle Ground Shoal Onshore facility, and the Granite Point Tank Farm. DEC is also proposing to allow new onshore production facilities to seek coverage under the general permit as well,⁷ and is proposing to allow Osprey to discharge both its own wastes and onshore wastes through the permit. This is contrary to the Effluent Limitation Guidelines (ELGs). The ELGs require onshore facilities, including those in Cook Inlet, to meet a zero discharge requirement.⁸ The mere fact that these onshore facilities process the byproducts from offshore facilities does not convert them to offshore facilities subject to the offshore ELGs. Although EPA allowed these facilities to discharge in previous iterations of the general permit, that is in fact contrary to the ELGs. These onshore facilities and are not properly encompassed within the exemption that applies to offshore facilities in Cook Inlet. Other onshore facilities in Cook Inlet can and do meet this zero discharge requirement, as required by the ELGs.⁹ DEC needs to remove any onshore facilities and any discharges from onshore facilities from the scope of the general permit and require that they meet the onshore ELG requirements, which impose a zero discharge requirement for produced water and other waste.

Similarly, DEC’s proposed permit is misleading in how it is handling the Osprey discharge. Osprey currently reinjects for a number of onshore facilities. Under the ELGs, Osprey cannot discharge waste streams from onshore facilities into Cook Inlet. They are not subject to

⁵ *Id.* at 83.205(c).

⁶ *Id.* at 83.205(d).

⁷ Alaska Dep’t of Env’tl. Conservation, Alaska Pollutant Discharge Elimination System Permit Fact Sheet — Draft: Oil and Gas Exploration, Production and Development in State Waters in Cook Inlet, Permit No. AKG315200 at 27 (2019) [hereinafter Fact Sheet].

⁸ 40 C.F.R. § 435, Subpt. C.

⁹ See Dave LaLiberte, Draft Permit Technical Review on APDES General Permit #AKG315200 (February 19, 2019) For Oil and Gas (O-G) Exploration, Development, and Production in State Waters in Cook Inlet, Alaska, at 3 n.8 (May 21, 2019) [hereinafter LaLiberte Report].

the exemption for offshore Cook Inlet facilities, and are thus obligated to meet a zero discharge requirement. DEC has failed to make this clear in the general permit, and is instead proposing to create a much broader loophole for Cook Inlet facilities. The draft general permit must be limited to those discharges that meet the narrowly defined set of offshore facilities in the ELGs.

B. Trading Bay Production Facility Should Not Be Permitted Through a General Permit.

In addition to the point above that Trading Bay is an onshore facility and is therefore not properly allowed to discharge pursuant to an offshore exemption for Cook Inlet, it is also inappropriate for DEC to permit Trading Bay Production Facility through a general permit more broadly. Trading Bay should be required to obtain coverage under an individual permit, as the facility's produced water discharge is substantially more — close to 80% of the discharges — than other facilities. We have raised this concern in previous iterations of the permit, and ask DEC to revisit this issue.¹⁰

For permits already covered under a general permit, it is within DEC's discretion to terminate or revoke a permit and require a discharger to apply for an individual APDES permit.¹¹ There are numerous reasons why DEC should revoke a permit for cause:

- (1) the discharger is not in compliance with the conditions of the general APDES or NPDES permit;
- (2) a change has occurred in the availability of demonstrated technology or practices for the control or abatement of pollutants applicable to the point source;
- (3) a water quality management plan containing requirements applicable to a point source is approved;
- (4) circumstances have changed so that the discharger is no longer appropriately controlled under the general permit, or the authorized discharge must be either temporarily or permanently reduced or eliminated;
- (5) the department determines the discharge is a significant contributor of pollutants.¹²

To determine if a discharger is a significant contributor of pollutants, DEC may consider with respect to waters of the United States, the location, size, quantity and nature of the pollutants, along with other relevant factors.¹³ Upon permit revocation, the discharger may alternatively apply for an individual APDES permit.¹⁴

¹⁰ See Letter from Vicki Clark to L. John Iani, Petition to Revoke Unocal Corporation's Coverage under NPDES General Permit No. AKG2580000 and Require It to Obtain Individual NPDES Permits for Its Cook Inlet Oil and Gas Facilities (Apr. 7, 2004).

¹¹ 18 AAC 83.215.

¹² *Id.* at 83.215(1)–(2), (4)–(6); see also 40 C.F.R. § 122.28(b)(3)(i).

¹³ 18 AAC 83.215(6).

¹⁴ *Id.* at 83.215.

DEC improperly includes Trading Bay under the proposed permit. Trading Bay is not substantially similar to the other facilities covered under the 2007 permit. Trading Bay's coverage under the proposed permit should be revoked because the facility's discharge is a significant contributor to pollutants within Cook Inlet, and Trading Bay has had numerous compliance violations.

The inclusion of Trading Bay in the proposed permit is inappropriate because the facility's discharges are substantially higher than other covered facilities and its location near the Trading Bay State Game Refuge. General permits are appropriate when facilities "involve the same or substantially similar operations" and "require the same effluent limitations or operating conditions."¹⁵ DEC may alter Trading Bay's coverage under the permit by finding that the facility "is a significant contributor of pollutants" when considering the location, size, quantity and nature of the pollutants.¹⁶ The sheer scale of Trading Bay makes its effluent different from other facilities and the facility should be found a "significant contributor of pollutants." Trading Bay accounts for the overwhelming majority of the draft permit's discharges — just over 80% of all produced water under the permit.¹⁷ The dimensions of Trading Bay's chronic mixing zone reflect the scale of the discharge.¹⁸ In addition, Trading Bay's location is near the Trading Bay State Game Refuge, an environmentally sensitive area providing critical habitat for large concentrations of waterfowl and five salmon producing river systems.¹⁹ The discharge from Trading Bay is astronomically higher than for other facilities seeking coverage under the general permit. The scale of Trading Bay's discharges and its proximity to a state game refuge indicate DEC should require Trading Bay to obtain coverage under an individual permit.

DEC should also require Trading Bay to obtain an individual permit because of its history of serious permit violations. An individual permit is appropriate if "the discharger is not in compliance with the conditions of the general APDES . . . permit."²⁰ Trading Bay has an extensive violation history.²¹ The proposed permit acknowledges that Trading Bay exceeded daily and monthly average limits for mercury in June 2012 and total recoverable copper in June 2012 and February 2016.²² Trading Bay's maximum observed range also exceeds the produced water oil and grease parameter.²³ In 2017, DEC issued a notice of violation from a compliance inspection, which included an "effluent limit exceedance, subsequent failure to increase the frequency of sampling, and failure to notify the Department."²⁴ Trading Bay's permittee, Hilcorp

¹⁵ *Id.* at 83.205(b)(A), (C).

¹⁶ *Id.* at 83.215(6)(A)–(C).

¹⁷ LaLiberte Report at 11.

¹⁸ Fact Sheet at 71, 79 (comparing Trading Bay to other facilities' mixing zone dimensions).

¹⁹ ADF&G, Trading Bay — State Game Refuge, Fish and Wildlife, *available at* <http://www.adfg.alaska.gov/index.cfm?adfg=tradingbay.species>.

²⁰ 18 AAC 83.215(1).

²¹ Letter from Vicki Clark to L. John Iani, at 3.

²² Fact Sheet at 60.

²³ Fact Sheet at 48.

²⁴ *Id.* at 61.

Alaska, LLC, incurred a civil penalty for these violations.²⁵ Trading Bay should be required to undergo individual permitting in order to better regulate and monitor the facility given its extensive history of violations.

C. Several Other Facilities Should Not Be Included Within the Scope of the General Permit.

1. DEC should not allow new facilities to seek coverage under the general permit.

The current general permit does not allow new facilities to seek coverage under the general permit. In the draft permit, DEC proposes to remove this prohibition. DEC should maintain this prohibition and require that new facilities seek individual permits for their discharges. DEC's removal of this prohibition amounts to significant expansion of this permit, for which DEC has not undertaken an appropriate analysis including an antidegradation analysis. The draft general permit provides no limitations on the scale, number, or location of new facilities. New facilities should be evaluated on an individual basis, given the potential for them to cause further degradation of Cook Inlet and to economically meet zero discharge standards.

2. DEC should not include Osprey in the general permit.

Osprey should not be allowed to obtain coverage under the general permit.²⁶ As discussed in more detail later in these comments, there are very serious concerns about the manner in which DEC proposed to handle Osprey in this draft permit. The draft permit would allow substantial backsliding not only for Osprey, but also in allowing other future facilities to seek coverage under substantially lower standards than what should be allowed in Cook Inlet. DEC should not allow Osprey to backslide and stop meeting a zero discharge requirement.²⁷ Beyond that, DEC's analysis is also flawed because of problems with its mixing zone analysis,²⁸ it allows an exemption and modification of the existing critical habitat barriers without adequate justification,²⁹ and its antidegradation analysis is insufficient.³⁰

DEC acknowledges that Osprey is unable to meet the ELGs applicable to oil and gas facilities in Cook Inlet yet proposes to cover the discharges anyway. This is unacceptable. DEC cannot permit Osprey under either the general permit or an individual permit if it is unable to meet the minimum ELG requirements applicable to facilities in Cook Inlet.

DEC cannot authorize Osprey under the draft general permit. The facility's planned operations for discharge are not similar to other permitted facilities. Currently, the Osprey

²⁵ *Id.*

²⁶ 18 AAC 83.205(b)(2); 40 CFR § 122.28(2).

²⁷ Section V.A.2.

²⁸ Section VI.A.

²⁹ Section VIII.

³⁰ Section VI.B.iii.

facility is required to meet a zero discharge standard for produced water. The draft general permit proposes elimination of zero discharge. Osprey's operations are distinct from the rest of the draft permit, as the facility is not a similar operation and has different wastes, effluent limitations, and monitoring and operating conditions.³¹

Osprey is not a similar operation. Osprey was one of the first new facilities in Cook Inlet in decades and was required under its individual permit to meet a zero discharge requirement. It is also located near Redoubt Bay Critical Habitat Area. There have been no historical, authorized discharges from the Osprey platform.³² DEC cannot provide historical data for the facility because none exists. Currently, Cook Inlet Energy reinjects all drilling fluids and drill cuttings, produced water, and other miscellaneous wastes.³³ Other facilities covered by the draft permit have operated in Cook Inlet for decades. The proposed produced water discharge for Osprey will comprise just over 10% of the total general permit discharges.³⁴ Osprey is not a similar operation, as it historically maintained zero discharge through reinjection of produced water. It is in close proximity to critical habitat. Osprey remains inappropriate for inclusion in the draft permit, because the above operating conditions make the platform unlike other Cook Inlet operators.

In addition, Osprey reinjects wastes from multiple onshore facilities in the West McArthur River Unit and Redoubt Unit.³⁵ DEC does not clarify or describe how or where these additional onshore wastes will go if the exemption is expanded to allow Osprey's discharge. Onshore facilities are required to meet a zero discharge requirement and are not allowed to discharge into Cook Inlet. DEC should not allow Osprey to backslide and start discharging. DEC also has an independent obligation to ensure that those onshore facilities are not allowed to discharge their waste via the Osprey platform. It is unclear in the current draft permit how DEC is addressing those discharges and whether Cook Inlet Energy is attempting to illegally commingle those discharges with the proposed Osprey discharge.

Furthermore, if Osprey is permitted to discharge, the facility requires different effluent limitations and monitoring.³⁶ Osprey's waste is dissimilar to others in the permit. DEC asserts that discharges "will be similar" with no historical data.³⁷ Previously, the ELGs were developed based on information from discharging platforms and the onshore production facilities.³⁸ Now, without adequately considering Osprey's discharges, DEC states that Osprey must comply with the ELGs and meet "the model technology based on the improved gas flotation" prior to permit

³¹ 18 AAC 83.205(b)(2)(A)–(D).

³² *Id.* at 83.205(b)(2)(A).

³³ Fact Sheet at 15.

³⁴ LaLiberte Report at 3 n.8.

³⁵ Fact Sheet at 15; Cook Inlet Energy, Osprey APDES Permitting Antidegradation Analysis Report, Cook Inlet, Alaska (August 2018) [hereinafter August 2019 Antidegradation Report].

³⁶ 18 AAC 83.205(b)(2)(B), (D).

³⁷ Fact Sheet at 115, 165–66.

³⁸ *Id.* at 155.

coverage.³⁹ DEC's initial characterization based on testing the injected waste finds that chronic or acute water quality criteria will be exceeded for TAH, TAqH, Copper, Manganese, Mercury, and Zinc.⁴⁰ Additionally, oil and grease exceed limits for water quality criteria ELGs, and DEC states that increased produced water treatment will be required.⁴¹ As presented in the draft permit Osprey will exceed most values for the ELGs and water quality criteria. This is unacceptable and should not be allowed in the draft general permit, or even in an individual permit.

The sampling taken to establish the values for water quality criteria is also inaccurate. DEC states the samples to calculate discharges are taken from the Osprey platform's injected produced water — including discharges from two onshore facilities.⁴² Since onshore facilities are not allowed to discharge under the draft general permit,⁴³ Osprey's application and monitoring should only be for offshore discharges. Since the current modeling and calculations include the produced water of multiple onshore facilities, DEC must redo these tests to ensure the application accurately reflects the proposed discharge of only offshore platform wastes.

Additionally, DEC fails to take into account site-specific conditions for Osprey's location and mixing zone. It is particularly troubling that DEC is proposing to authorize these discharges near Redoubt Bay Critical Habitat Area, in an area previously closed to discharges. The proposed mixing zone for the facility is within the 4,000-meter buffer that was previously closed to discharges. DEC now dispenses with this buffer zone, stating without analysis that the 1,000-meter minimum in the regulations is adequate.⁴⁴ DEC should not dispense with these critical protective buffers for Osprey or in general. DEC fails to take into account site-specific conditions for Osprey's location and mixing zone when considering inclusion in the draft permit.

3. Inclusion of the Sabre Exploration Project in the draft permit is inappropriate.

The Sabre exploration project should not be permitted under the draft general permit. The Sabre exploration project was unable to obtain an authorization under the 2015 Exploration General Permit because the facility's proximity to the Trading Bay State Game Refuge. DEC

³⁹ *Id.* at 156.

⁴⁰ *Id.* at 55.

⁴¹ *Id.*

⁴² *Id.* at 15; Osprey's proposed mixing zone is based on data from comingled produced water samples from eight production wells in the West McArthur River Unit and Redoubt Unit. Two oil wells, 2B and 5, are onshore in the West McArthur River Unit. Cook Inlet Energy, Osprey APDES Permitting Antidegradation Analysis Report: Cook Inlet Alaska, at 11 (May 2018); Cook Inlet Energy, Osprey APDES Permitting Antidegradation Analysis Report: Cook Inlet Alaska, at 3 (August 2018) (hereinafter Antidegradation Report).

⁴³ Onshore facilities are regulated under 40 C.F.R. § 435, subpt. C for onshore facilities. The exemption for allowing for discharge into Cook Inlet, only applies for facilities in "coastal" areas meaning "a location in or on a water of the United States landward of the inner boundary of the territorial seas." 40 C.F.R. § 435.40; 40 C.F.R. § 435 appx. 1.

⁴⁴ Fact Sheet at 19.

should not now reduce current limits or allow Sabre to apply for coverage under the general permit. Sabre's discharges are not substantially similar to others in the permit and require different limitations and monitoring due to the nature of the Sabre location.⁴⁵

Discharges should be permitted under a general permit when they involve "substantially similar types of operations."⁴⁶ Sabre does not meet this standard as DEC changes the general permit's buffer zone explicitly to allow for the Sabre discharges and potentially others in that area. This is improper backsliding. A 4,000 meter buffer is required to protect Trading Bay State Game Refuge.⁴⁷ Previously, Sabre was unable to obtain coverage under the 2015 Exploration GP because its discharges would have violated the prohibition on discharges within 4,000 meters of Trading Bay State Game Refuge.⁴⁸ Subsequently, DEC issued a permit based on Cook Inlet Energy's individual permit application.⁴⁹ Under Sabre's individual permit, the location of the exploration is near the West McArthur River between the five production platforms that process at Trading Bay.⁵⁰ Previously, the Spartan 151 mobile offshore drilling unit was authorized for the Sabre project.⁵¹ Although the draft permit authorizes the Spartan 151 for activities, it does not explicitly tie its use to the Sabre permit. In fact, the permit suggests otherwise, authorizing Spartan 151 for Bluecrest and the Kitchen Lights Unit projects, but not for Cook Inlet Energy projects, such as Sabre.⁵² DEC needs to identify and account for the discharge of the particular exploration facility and plans for its use at the Sabre site. The draft permit's description of Sabre is ambiguous and does not support that it is like others in the draft permit.

Due to Sabre's proximity to the Trading Bay State Game Refuge, there are unique operating conditions, effluent limitations, and monitoring requirements that make it inappropriate for DEC to add Sabre to the general permit.⁵³ In 2018 in the Sabre individual permit, DEC found "the issuance of an individual permit [was] consistent with the 2007 [general permit]" because coverage under the general permit was not possible.⁵⁴ Now in response to this limitation, DEC modifies the restriction for Trading Bay State Game Refuge, reducing the prohibition against discharges from 4,000 meters to 1,000 meters.⁵⁵ No rationale is provided for this reduction other

⁴⁵ 18 AAC 83.205(b)(2)(A), (C)–(D).

⁴⁶ *Id.* at 83.205(b)(2)(A).

⁴⁷ Fact Sheet at 14.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit Fact Sheet — Final: Cook Inlet Energy, LLC Sabre Oil and Gas Exploration Project, Permit No. AK0053690, at 8 (2019) [hereinafter 2018 Sabre Individual Permit Fact Sheet]; *see also*, Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit — Final: Cook Inlet Energy, LLC Sabre Oil and Gas Exploration Project, Permit No. AK0053690 (2019).

⁵¹ 2018 Sabre Individual Permit Fact Sheet at 9.

⁵² Fact Sheet at 14.

⁵³ 18 AAC 83.205(b)(2)(C)–(D).

⁵⁴ 2018 Sabre Individual Permit Fact Sheet at 6.

⁵⁵ Fact Sheet at 19.

than protections will be maintained. This is improper backsliding. DEC should not allow facilities, including Sabre, to operate within 4,000 meters of a state game refuge and should not allow illegal backsliding by reducing this buffer in the general permit. A reduced buffer will not protect the area's environmental values and does not account for the unique conditions and sensitivities in this area.

In addition, DEC backslides on the zone of deposit requirements without any acknowledgement or justification. The 2018 Sabre individual permit authorizes a 25 meter radius zone of deposit for drilling fluids and drill cuttings, excess cement slurry and fluids, and cement and cuttings at the seafloor.⁵⁶ That authorization is four times more stringent than the 100 meter radius zone proposed in the draft general permit.⁵⁷ The 100 meter radius zone does not consider site specific limitations or concerns. DEC should not backslide by modifying the zone of deposit requirements.

Lastly, DEC does not consider Sabre in geographical context with other facilities or account for the potential cumulative impacts to the area. As discussed above, Trading Bay accounts for the majority of discharges under the draft permit. Sabre's location is just south of Trading Bay's mixing zone, and the cumulative effects of these discharges are not considered with the draft. Cook Inlet Energy also has a number of previous well violations, none of which DEC accounts for in the draft permit.⁵⁸ These also are likely to further exacerbate the impacts to this sensitive area. Depending on Sabre's success, Cook Inlet Energy may also propose a new production platform in Cook Inlet.⁵⁹ DEC needs to make it clear in this permit that any proposal for a future production facility in this area will not be covered or allowed to discharge under the general permit. Authorization of the Sabre Exploration Project is inconsistent with all previous iterations of the permit. Sabre's inclusion in the draft permit is improper and DEC should continue to address any discharges related to Sabre in an individual permit.

4. Inclusion of the Julius R Gas Production Platform in the draft permit is inappropriate.

DEC adds the Julius R Gas production platform to the draft permit without any application or analysis. In 2014, DEC issued an individual permit for the Kitchen Lights Unit Gas Production Platform, now known as the Julius R Gas Production Platform. The 2014 Julius

⁵⁶ 2018 Sabre Individual Permit Fact Sheet at 8.

⁵⁷ Alaska Dep't of Env'tl. Conservation, Alaska Pollutant Discharge Elimination System Permit — Draft: Oil and Gas Exploration Production and Development in State Waters in Cook Inlet, Permit No. AKG315200 at 49 (2019) [hereinafter Draft Permit].

⁵⁸ Alex DeMarban, *Cook Inlet Oil Produced Delays Planned Exploration Until Tax Dust Settles*, ANCHORAGE DAILY NEWS (May 7, 2017) <https://www.adn.com/business-economy/energy/2017/05/07/cook-inlet-oil-producer-delays-planned-exploration-until-tax-dust-settles/>.

⁵⁹ 2018 Sabre Individual Permit Fact Sheet at 5–6 (“Pending results of gas reserves evaluation, [Cook Inlet Energy] may install a subsea wellhead and tree on the drilling fluid line to enable production at a later time.”).

R permit allows for an exploratory mobile offshore drilling unit, construction facilities to build the platform, and installation of a pipeline using Horizontal Directional Drilling (HDD).⁶⁰ Because of its differences from other platforms, inclusion of Julius R in the draft general permit is inappropriate.

When facilities involve “substantially similar types of operations”⁶¹ they may be permitted under a general permit. Julius R’s operations are unlike the other facilities in the general permit as the Julius R Individual Permit includes production, discharges for an attached exploration facility, and pipeline installation. Julius R was not issued under the 2007 permit because it incorporated HDD drilling.⁶² As described below, HDD and other geotechnical drilling activities are inappropriate for inclusion in the general permit. DEC does not describe how the geotechnical drilling authorized by the Julius R individual permit will be incorporated into the draft general permit.⁶³ This means it is impossible for the public to comment further on DEC’s addition of this specific additional discharge incorporated in the general permit. Because the Julius R platform is unlike the other platforms, it should be authorized under an individual permit.

Furthermore, due to Julius R’s discharges of graywater and black water, there are unique operating conditions, effluent limitations, and monitoring requirements that make it inappropriate for DEC to add Julius R to the general permit.⁶⁴ In addition to its own wastes Julius R discharges for the Randolph Yost MODU as well.⁶⁵ Julius R and Randolph Yost are the only facilities in the general permit that propose combining graywater and black water discharges.⁶⁶ The combined graywater and black water mixing zone is the only discharge Julius R authorizes, as the platform sends its produced water to shore.⁶⁷ Recently, Julius R and Randolph Yost replaced the treatment systems for domestic wastewater. After installation Julius R exceeded discharge limits for three months and Randolph Yost exceeded discharge for five months due to issues with “chlorine generation and solids handling.”⁶⁸ The violations from domestic wastewater exceedances for

⁶⁰ Alaska Dep’t of Env’tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit — Final: Kitchen Lights Unit Gas Production Platform A, Permit No. AK0053686 (2014) [hereinafter 2014 Julius R Individual Permit]; Alaska Dep’t of Env’tl. Conservation, Alaska Pollutant Discharge Elimination System Individual Permit Fact Sheet — Final: Kitchen Lights Unit Gas Production Platform A, Permit No. AK0053686, at 7 (2014) [hereinafter 2014 Julius R Individual Permit Fact Sheet].

⁶¹ 18 AAC 83.205(b)(2)(A).

⁶² Fact Sheet at 15.

⁶³ *Id.* (DEC states: “HDD discharges similar to those under the Furie IP are anticipated to be needed to support future oil and gas development projects in Cook Inlet.” This statement is insufficient to describe the precise HDD activities DEC intends to permit related to Julius R.)

⁶⁴ 18 AAC 83.205(b)(2)(C)–(D).

⁶⁵ Fact Sheet at 39.

⁶⁶ *Id.* at 39, Table 9, n.3.

⁶⁷ Fact Sheet at 14–15, 46 (For Julius R’s produced water the facility “transfers small volumes . . . to the Furie [Granite Point Tank Farm] that can be disposed offsite.”).

⁶⁸ *Id.* at 39.

Julius R are not included in the platform's data for the draft general permit.⁶⁹ DEC provides no explanation for this omission. The facilities have only come into compliance in the couple of months before the release of the draft general permit. They should continue to be monitored closely though an individual permit. DEC also fails to explain how the discharge of two platforms wastes at a single location effect pollutant loads. These violations require close monitoring and are inappropriate for a general permit due to past violations. Julius R's discharges are substantially different than others in the general permit and the platform should be permitted individually.

5. *"Shuttered" facilities should not be covered under the general permit.*

DEC should not include shuttered facilities within the scope of the draft permit. Currently, the Bruce, Baker, Dillon, Spurr, and Spark Platforms are all inactive, although DEC suggests Baker, Bruce, and Dillon may reactivate during the duration of the permit.⁷⁰ Since Baker's last produced discharges were in 2005, DEC's data is deficient and lacking.⁷¹ Since current data is unavailable, DEC purports to use the Middle Ground Shoal Onshore platform's data as a "surrogate" to calculate discharges so the facility could continue to be authorized, but also provides no detail about exactly how the calculations were made.⁷² Data from an onshore facility at a different location with different effluent considerations is not an adequate substitute for data that is missing and outdated for the Baker platform.

Similarly, the Bruce platform has not discharged produced water since 2006 and the Dillon platform has not discharged produced water since 2003. By continuing to include these aging facilities in the draft permit as a "contingency" for allowing future discharges, DEC fails to properly account for the differences in discharges from aging and currently inoperative facilities.⁷³ DEC does not account for the potential discharges from these facilities in overall permit projections, despite the fact that those facilities may start discharging again under the general permit. This leads to numerous deficiencies in the permit. First, it is unclear if DEC has properly accounted for and analyzed the mixing zones and other discharge impacts that could occur from these facilities. DEC has failed to properly account for these facilities for the general permit's discharges. DEC should not include these facilities within the scope of the proposed general permit. If these facilities ultimately seek to discharge in the future, DEC should go through the appropriate analysis at that point in time and should not use the general permit as a way to keep open the door for facilities that may or may not ultimately seek to discharge.

⁶⁹ *Id.*

⁷⁰ *Id.* at 21, 50–53.

⁷¹ *Id.* at 50.

⁷² *Id.*

⁷³ *Id.* at 51–53; LaLiberte Report at 4.

D. It is Inappropriate for DEC to Add Discharges from Pipeline Construction and Other Ancillary Activities to the Draft Permit.

1. *DEC should not include HDD and geotechnical drilling within the scope of the general permit.*

It is inappropriate for DEC to add HDD and geotechnical drilling to the draft general permit. Diverging from the 2007 permit, the draft permit adds drilling fluids and drill cuttings associated with geotechnical surveys and horizontal directional drilling to support subsea pipeline construction. These discharges should not be encompassed in the draft general permit.

General permits are suitable when the operations are substantially similar, including their operating conditions and types of waste.⁷⁴ It is inappropriate for DEC to include HDD and geotechnical drilling within the scope of this draft general permit because they (1) must be independently considered under the ELGs, (2) do not involve the same or substantially similar operations, (3) involve the discharge of a different class of wastes, and (4) require different effluent discharge limitations, operating conditions, and monitoring than the oil and gas exploration and production facilities addressed elsewhere in the permit. DEC has provided no rationale for why HDD or geotechnical drilling should be included within the scope of this permit. HDD and geotechnical drilling are markedly different than the other activities or discharges covered under the permit. DEC cannot encompass these discharges within the scope of a draft general permit related to oil and gas exploration and development.

DEC cannot authorize the discharge of non-aqueous drilling fluids, dewatering effluent, and drill cuttings without ensuring their compliance with the ELGs. The general permit states that class C drilling fluids are outside of the ELGs.⁷⁵ This statement is overbroad, as the ELGs encompass drilling fluids and there is no exemption for oil and gas related activities.⁷⁶ The ELGs do not permit the discharge of non-aqueous drilling fluids and all water based discharges must comply with the Cook Inlet exception.⁷⁷ DEC does not limit additives for any class C discharges, which can contain barite metals and other unspecified oil and gas additives.⁷⁸ Without description the additives may contain synthetic materials prohibited by the ELGs.⁷⁹ Additionally, DEC states that HDD, geotechnical drilling fluids, drill cuttings, and hydrostatic test water are appropriate for inclusion in draft permit because they “are similar in nature to those in the 2007 [general permit].”⁸⁰ All class C discharges must describe the allowed additives and comply with the ELGs.

⁷⁴ 18 AAC 83.205(a)–(b).

⁷⁵ Fact Sheet at 156.

⁷⁶ 40 C.F.R. Pt. 435.

⁷⁷ *Id.* at §§ 435.42–435.44.

⁷⁸ Fact Sheet at 28, 125.

⁷⁹ 40 C.F.R. §§ 435.42–435.44.

⁸⁰ Fact Sheet at 17.

The exploration and production activities covered under the draft permit are substantially different than HDD and geotechnical drilling, and should not be included within this general permit.⁸¹ HDD involves different procedures and non-vertical drilling, which differ from the rest of the draft permit's vertical practices. In the draft permit, HDD not only includes "[d]rilling for the purpose of installing an underground oil or gas transmission pipeline or conduit to an onshore protection facility using a rotary drill bit that can affect the direction of the drilling path near horizontal," but expands HDD activities to "also include discharges associated with a jack-up rig or mobile offshore drilling unit attached to the seafloor for the purpose of pulling pipe through the HDD borehole but not conducting drilling activities."⁸² DEC states that HDD's "unique components include borehole diameters, elevation difference (hydrostatic head)[,] . . . length of the borehole[,], . . . and plume modeling techniques."⁸³ For inclusion in the draft permit, permittees seeking HDD discharges are required to submit a notice of intent and undergo public process requirements.⁸⁴ DEC generally states that the HDD and geotechnical drilling fluids and drill cuttings allowed under the draft permit "are similar in nature to those in the 2007 GP," but provides no analysis or basis for the asserted similarity.⁸⁵ Instead, DEC concludes that HDD's inclusion is appropriate because then the permit will effectively cover discharges "related to oil and gas and other resource projects" — not because they share similarities.⁸⁶ The unique nature of HDD makes these activities inappropriate for this draft permit, as they are not substantially similar types of operations.

Geotechnical drilling activities are also substantially different than the draft permit's other exploration activities and should not be allowed.⁸⁷ Geotechnical drilling in the draft permit is described as an activity "that uses riser steam technology to circulate water-based drilled fluids to the water surface for reuse" on a "floating, moored, or stationary vessel, jack-up or lift barge actively conducting geotechnical surveying in open water."⁸⁸ A geotechnical survey "collects sediment samples to assess the structural properties of subsurface soil condition for potential placement of structures such as oil and gas production and drilling platforms, gravel islands, anchor structures for floating exploration drilling vessels, ports and harbors, and potentially buried pipeline corridors."⁸⁹ These procedures differ from the oil and gas exploration wells, as they utilize a deep test hole with no recirculation using lignosulfonate muds and lime muds.⁹⁰ Geotechnical drilling is not substantially similar to other oil and gas exploratory procedures encompassed in the draft general permit.

⁸¹ 18 AAC 83.205(b)(2)(A).

⁸² Draft Permit at Appendix C, C-8.

⁸³ Fact Sheet at 66.

⁸⁴ *Id.*; Draft Permit at 9; 18 AAC 15, 83.

⁸⁵ Fact Sheet at 17.

⁸⁶ *Id.*

⁸⁷ 18 AAC 83.205(b)(2)(A).

⁸⁸ Draft permit at Appendix C, C-7.

⁸⁹ *Id.*

⁹⁰ Fact Sheet at 28.

The draft permit should also not include these discharges because they involve different types of waste than the rest of the permit.⁹¹ DEC added an additional classification of discharges, Class C, to encompass the drill cutting requirements for HDD and geotechnical drilling projects.⁹² Unlike other oil and gas drilling fluids, Class C fluids are clay-based fluids that contain water, bentonite, and trace amounts of additives.⁹³ Additives common in oil and gas drilling are typically different than those used in HDD projects, as reflected by the fact that DEC had to expand the types of fluids that would be discharged under the draft permit to include Class C fluids.⁹⁴ DEC should not incorporate Class C drilling fluids for HDD and geotechnical drilling discharges with substantially different wastes in the draft permit.

These discharges are also not appropriate for this general permit because they require different monitoring practices from the rest of the permit for their effluent limitations and operating conditions.⁹⁵ DEC calculated the estimated volume for HDD discharges based on Furie's HDD project, which indicated that HDD drilling fluids and cuttings are likely to involve twice as many barrels of discharge per well as oil and gas drill cuttings and drilling fluids combined.⁹⁶ Producing twice the effluent makes discharge parameters substantially different than the rest of the permit. Also, the maximum volumes are based on the assumption that DEC will approve four projects during the term of the permit. DEC's section of how many facilities will be authorized over the length of the permit is arbitrary. DEC assumes four projects will be authorized over the lifetime of the permit.⁹⁷ This assumption is erroneous, because it does not explain how these estimated levels of development are accurate. In addition, DEC expects HDD discharges to require individually calculated and unique mixing zones based on the fact that HDD projects could not be standardized.⁹⁸ DEC notes that "[w]hen receiving water conditions or discharge characteristics and flow rates of the effluent are too varied, a facility-specific mixing zone has been specified in the Permit."⁹⁹ Monitoring for Class C fluids requires independent monitoring including twice daily observation for visual sheen, maintaining a daily log, and monthly estimates for the quantity of discharge.¹⁰⁰ It is unclear how this monitoring will be used to ensure environmental protections and compliance for the Class C fluids.

⁹¹ 18 AAC 83.205(b)(2)(B).

⁹² Fact Sheet at 88.

⁹³ *Id.* at 35.

⁹⁴ It is possible that some common oil and gas additives could be used for HDD, but only if the drilling is through complex geology. Fact Sheet at 35.

⁹⁵ 18 AAC 83.205(b)(2)(C)–(D).

⁹⁶ Fact Sheet at 36, Table 5.

⁹⁷ *Id.* at 36, Table 5, n.5.

⁹⁸ Fact Sheet at 66 (DEC determined that . . . the unique components [including borehole diameters, elevation difference (hydrostatic head) that determines discharge velocity at breakthrough (daylighting) of the pilot hole, length of the borehole that affects the rate of attenuation after peak discharge, and plume modeling techniques] of HDD projects does not lend itself to standardization.); *see also id.* at 63.

⁹⁹ Fact Sheet at 63.

¹⁰⁰ Fact Sheet at 93; Draft Permit at 21–22.

All of these factors are substantially different from the other discharges and facilities covered under the permit. The substantial differences for effluent limitations, mixing zones, and required monitoring mean HDD and geotechnical drilling should be issued under individual permits. Because of these differences, DEC should not allow HDD and geotechnical drilling coverage under the general permit.

2. *Hydrostatic testing discharges should not be included in the permit or allowed in general.*

DEC should not modify the existing permit terms to allow for independent discharges of hydrostatic test water. Hydrostatic discharges are unlike other permitted activities involving operations and are instead related to equipment testing.¹⁰¹ These activities are dissimilar to the draft permit, as the proposed discharge of hydrostatic test water includes independent discharges of water used for hydrostatic testing, potable water, and water purposefully flushed from potable systems,¹⁰² which require the development of different treatments and operating conditions. The draft permit requires an applicant to submit treatment best management practices for any hydrostatic test water that may include free-phase and dissolved phase hydrocarbons, which must be removed prior to discharge.¹⁰³ The applicant must also pursue a notice of intent prior to authorization and perform daily monitoring for flow volume, pH, oil and grease, and turbidity.¹⁰⁴ These procedures require additional operating conditions for the maintenance of pipelines and facilities. Previously, hydrotest water was allowed to be discharged along with produced water under the 2007 permit. This ensured discharges met the same water quality standards and monitoring requirements.¹⁰⁵ DEC now proposes to allow for hydrostatic discharges to be discharged separately. DEC has failed to justify this shift in the draft general permit and fails to provide enough information for the public to analyze.¹⁰⁶ DEC needs to explain the how the water quality standards continue to be met for hydrostatic test water. DEC should not allow facilities to discharge hydrostatic test water under standards that are any less stringent than the previous permit.

DEC should also not expand the definition to include different wastes. The 2007 permit limited the category to “water that is used to hydrotest the integrity of pipelines, tanks, or equipment.”¹⁰⁷ DEC expands the definition of hydrostatic test water in the draft permit to include

¹⁰¹ 18 AAC 83.205(b)(2)(B)–(D).

¹⁰² Fact Sheet at 109, Appendix C, C-8.

¹⁰³ *Id.* at 23, 108–09.

¹⁰⁴ *Id.* at 23, 108.

¹⁰⁵ *Id.* at 23, 116 (“[h]ydrostatic discharges were allowed in the 2007 GP so long as it was commingled with produced water”).

¹⁰⁶ DEC fails to characterize the wastewater for hydrostatic discharges. DEC must add a section 4.8 to the general permit. Currently, only Discharges 002–019 are described in sections 4.1–4.7. *See* Fact Sheet at 5.

¹⁰⁷ *See generally* U.S. Env’t Prot. Agency, Fact Sheet: Plans to Reissue A Nat’l Pollutant Discharge Elimination System (NPDES) General Permit for Oil and Gas Exploration, Development and Production Facilities Located In State and Fed. Waters in Cook Inlet, Permit

the “flushing of potable water systems on fixed platforms and MODUs.”¹⁰⁸ This expanded definition alters the category to create a substantially different type of discharge, as DEC now proposes to independently permit discharge of potable water under the permit.¹⁰⁹ DEC’s asserts that “the [hydrostatic test water] discharge is not new nor has the permitted concentration expanded.” However, DEC has expanded the category by adding potable water.¹¹⁰ DEC should not expand this definition to include different wastes and, at a minimum, must address the ramifications of expanding the discharge category.

3. *Discharge of synthetic drilling fluids are not allowed under the ELGs and may not be included in the general permit.*

DEC cannot authorize the discharge of synthetic drilling fluids in the general permit. The ELGs do not permit the discharge of synthetic based fluids.¹¹¹ The draft general permit authorizes the inclusion of Class B3 synthetic based fluids, which are controlled by 40 C.F.R. Part 435.¹¹² DEC cannot authorize a discharge that is prohibited under the ELGs. DEC must ensure the general permit complies with the prohibition against synthetic drilling fluid discharges.

Discharge of synthetic-based drill cuttings is also prohibited.¹¹³ In limited circumstances, Cook Inlet operators may be able to discharge synthetic-based drill cuttings after treatment to remove the synthetic-based drilling fluids and if the operator can meet certain site-specific requirements.¹¹⁴ The previous iteration of the general permit required treatment of the synthetic-based drill cuttings to remove any synthetic drilling fluids prior to their discharge. The draft general permit is now backsliding on this and proposing to allow facilities that previously met a zero discharge requirement to discharge those cuttings.¹¹⁵ DEC cannot broadly allow companies to discharge synthetic-based drill cuttings under the general permit. It must also take into consideration site specific conditions in the draft permit.

No. AKG-31-5000 [hereinafter 2007 Permit]; U.S. Env’t Prot. Agency, Fact Sheet: Plans to Reissue A Nat’l Pollutant Discharge Elimination System (NPDES) General Permit for Oil and Gas Exploration, Development and Production Facilities Located In State and Fed. Waters in Cook Inlet, Permit No. AKG-31-5000 (formerly AKG-28-5000) (Feb. 23, 2006) [hereinafter 2007 Fact Sheet].

¹⁰⁸ Fact Sheet at Appendix C, C-8.

¹⁰⁹ 18 AAC 83.205(b)(2)(B).

¹¹⁰ Fact Sheet at 116.

¹¹¹ 40 C.F.R. § 435.42; 66 FR 6850, 6850 (Jan. 22, 2001); *See* U.S. Env’t Prot. Agency, EPA Effluent Limitation Guidelines for Oil and Gas Facilities, Update: Synthetic Fluids, EPA-821-B-00-014 at 5-229 (2000).

¹¹² Fact Sheet at 19, 35, 89, 157.

¹¹³ 40 C.F.R. §§ 435.43, 435.44.

¹¹⁴ *Id.* at Pt. 435, Subpt. D, App. 1 at 2.4; 66 FR 6850, 6864.

¹¹⁵ 66 FR 6850, 6855.

E. DEC should maintain separate general permits for exploration and production facilities.

DEC should maintain separate general permits for production and exploration facilities. Since the draft permit was last authorized in 2007, DEC separately issued an exploration permit for Cook Inlet in 2015.¹¹⁶ The 2015 exploration permit recognized an emergent need for continued exploration in Cook Inlet and that DEC was unable to reissue the entire permit even though it was expired.¹¹⁷ Now, DEC seeks to authorize exploration and production in a single permit. Exploration and production activities should be permitted separately because they involve inherently different operations, discharge requirements, operating procedures, and monitoring requirements.¹¹⁸

Production and exploration are inherently different operations with distinct procedures and considerations.¹¹⁹ Production is the ongoing, “active recovery of hydrocarbons from production formations” occurring on established platforms.¹²⁰ In the draft permit, production includes the development of facilities and abandonment activities for offshore drilling units.¹²¹ On the other hand, exploration activities involve exploratory drilling and may be undertaken by mobile drilling units, including drill ships, jack-up rigs, and semisubmersible rigs.¹²² Production involves the permitting of produced water and other substantial discharges that require site-specific mixing zone analyses, whereas exploration units are mobile and may try to obtain authorizations for non-produced water marine discharges.¹²³ The draft permit claims that mixing zones for exploration facilities and most fixed, production platforms for non-produced water surface discharges are a consistent 100-meter mixing zone radii.¹²⁴ Yet DEC does not impose universal mixing zones for exploration facilities since they are mobile and are required to independently apply for discharge in order to account for site-specific conditions. Production and exploration facilities require different-sized mixing zones.

¹¹⁶ U.S. Env’t. Prot. Agency, Authorization to Discharge Under the Nat’l Pollutant Discharge Elimination System (NPDES) For Oil and Gas Exploration Facilities in Fed. Waters of Cook Inlet, Permit No. AKG-28-5100 (Jul. 29, 2015); U.S. Env’t Prot. Agency, Fact Sheet: Oil and Gas Exploration Facilities in Fed. Waters of Cook Inlet, NPDES Permit No. AKG-28-5100 (2015); U.S. Env’t Prot. Agency, Final Ocean Discharge Criteria Evaluation for the Cook Inlet Exploration NPDES General Permit (2015); Cindy Godsey, EPA, AKG285100 Response to Comments General Permit (GP) for Oil & Gas Exploration in the Fed. Waters of Cook Inlet, Alaska (Jul. 2015).

¹¹⁷ Fact Sheet at 13–14.

¹¹⁸ 18 AAC 83.205(b)(A)–(D).

¹¹⁹ *Id.* at 83.205(b)(A), (C).

¹²⁰ Fact Sheet at Appendix C, C-11.

¹²¹ *Id.*

¹²² *Id.* at 29.

¹²³ *Id.* at 22.

¹²⁴ Draft Permit at 46 (discharges 005–014).

The discharges for production facilities are distinct from those for exploration facilities as well.¹²⁵ The 2007 permit and draft permit each authorize twenty discharge categories, but the 2015 exploration permit only authorizes thirteen discharge categories.¹²⁶ For example, additional categories of discharges at issue with production facilities, but not exploration, include waterflooding discharges, produced water and produced sand, completion fluids, workover fluids, well treatment fluids.¹²⁷ Additionally, production-related discharges involve radically different monitoring requirements, since those discharges occur for long periods of time over the life of those platforms. Exploration is conducted at any particular site for a short period and “generally consists of drilling only one to five wells.”¹²⁸ By separately authorizing exploration and production, DEC will account for the inherently different nature of these oil and gas activities. DEC should not remerge exploration and production back into a single general permit, and should instead address those facilities through separate general or individual permits.

III. DEC HAS THE AUTHORITY TO REQUIRE ZERO DISCHARGE.

At the public hearings on the general permit, DEC took the position that they could not impose a zero discharge requirement on Cook Inlet facilities. This is incorrect. As a threshold matter, onshore facilities are required to meet a zero discharge requirement; DEC cannot permit onshore facilities to discharge into Cook Inlet under the ELGs and must maintain that zero discharge requirement. However, DEC still has the authority and obligation under state water quality standards to ensure there is no degradation of Cook Inlet and that existing uses are fully protected. That authority in turn provides DEC with the ability to require Cook Inlet facilities to meet more stringent standards than might be required under the ELGs, including via methods such as reinjection. EPA itself has recognized that it is economically and technologically feasible, especially for new facilities, to reinject and meet a zero discharge standard for produced water.¹²⁹ DEC should ensure that it is adopting the most stringent standards possible to protect Cook Inlet from further degradation.

¹²⁵ 18 AAC 83.205(b)(B), (D).

¹²⁶ Compare Fact Sheet at 18 and 2006 Fact Sheet at 18 to 2015 Exploration Fact Sheet at 10.

¹²⁷ *Id.*

¹²⁸ Fact Sheet at 22.

¹²⁹ EPA’s longstanding position is the Cook Inlet exemption is outdated. *See* Memorandum from Daniel D. Opalski, Director, Office of Water and Watersheds Region 10, to Elizabeth Southerland Director, Office of Science and Technology Office of Water and Robert Wood, Director, Engineering and Analysis Division Office of Science and Technology, Re: Request for Review of the Cook Inlet Exemption in the Coastal Subcategory of the Oil and Gas Extraction Point Source Category in the Preliminary 2012 Effluent Guidelines Program Plan (Oct. 24, 2013); Briefing Paper for Ephraim King, Concept Memo: Economic Analysis of Oil and Gas Activities in Cook Inlet, Alaska (Apr. 29, 2009); Memorandum from Michelle L. Pirzadeh, Acting Regional Administrator to Michael H. Shapiro, Acting Assistant Administrator, Office of Water, Re: Cook Inlet Coastal Subcategory Effluent Limitation Guidelines (ELG) Exemption (Apr. 15, 2009); Memorandum from Elin D. Miller, Regional Administrator to Benjamin H. Grumbles, Assistant Administrator for Water (Aug. 14, 2007); Memorandum from

IV. THE DRAFT PERMIT'S ANALYSIS OF ZONES OF DEPOSIT IS DEFICIENT.

DEC's zones of deposit analysis is deficient and should not permit the deposit of substances on the bottom of marine waters. To allow a zone of deposit, regulations specify that "standards must be met at every point outside the zone of deposit."¹³⁰ Additionally, "[i]n no case may the water quality standards be violated in the water column outside the zone of deposit by any action, including leaching from, or suspension of, deposited materials."¹³¹ To determine whether to allow a zone of deposit, the department is required to consider, to the extent appropriate, the following factors:

- a. alternatives that would eliminate, or reduce, any adverse effects of the deposit;
- b. the potential direct and indirect impacts on human health;
- c. the potential impacts on aquatic life and other wildlife, including the potential for bioaccumulation and persistence;
- d. the potential impacts on other uses of the waterbody;
- e. the expected duration of the deposit and any adverse effects; and
- f. the potential transport of pollutants by biological, physical, and chemical processes.¹³²

DEC proposes the authorization of 100 meter radius zones of deposit for Drilling Fluids and Drill Cuttings, Excess Cement Slurry, and Fluids, Cement, and Cuttings at the Seafloor.¹³³ Previously, the 2007 permit did not authorize zones of deposit because DEC indicated that there was only limited potential for a zone of deposit to form and, if one does, the zone of deposit will only last for a short duration.¹³⁴ While the agency now accounts for the likelihood of particle settlement from discharge, the analysis is inadequate because it (1) fails to consider zones of deposit on a facility by facility basis, (2) lacks transparency, and (3) insufficiently assesses impacts to human health, aquatic life, and wildlife.

A. The Permit Should Not Authorize Zones of Deposit.

DEC should not allow discharges resulting in zones of deposit in the general permit. Zones of deposit differ from all other discharges in the draft permit because they produce wastes with different effluent conditions and require different monitoring to ascertain their impacts on

Michael F. Gearheard, Director, Office of Water and Watersheds to Benjamin H. Grumbles, Assistant Administrator for Water, Re: Final Agency Review; Region 10 Concurrence with 2006 Effluent Guidelines Program Plan (Oct. 25, 3006).

¹³⁰ 18 AAC 70.210(a).

¹³¹ *Id.*

¹³² *Id.* at 70.210(b).

¹³³ Fact Sheet at 85; Draft Permit at 49.

¹³⁴ Alaska Dep't of Env'tl. Conservation, Draft Authorization to Discharge Under the Alaska Pollutant Discharge Elimination System for Mobile Oil and Gas Exploration, Development, and Production in State Waters in Cook Inlet: General Permit No. AKG 285100, at 30 (2013).

the seafloor.¹³⁵ Prior to the draft permit, DEC did not authorize zones of deposit because it said there was limited potential for zones to form and, if formation occurred, the duration would be short.¹³⁶ Now, DEC recognizes zones of deposit are likely to occur and proposes authorizing 100-meter-radius zones for multiple types of discharges: drilling fluids and drill cuttings, excess cement slurry and fluids, cement, and drill cuttings at the seafloor.¹³⁷ The proposed discharges allow for at least the temporary settlement of discharges on the seafloor.

The draft permit's zones of deposit analysis is too vague for proper inclusion under a general permit. For inclusion in a general permit, "the conditions applicable to each category or subcategory of discharges covered" must be clearly identified.¹³⁸ The draft permit does not take into account any site-specific conditions when authorizing zones of deposit.¹³⁹ This is wholly in appropriate and contrary to the standards that should apply to terms in a general permit. Under the draft permit there is no way to discern whether and for how long a zone of deposit will occur. DEC assumes that deposits will "not bioaccumulate or persist in the environment," while at the same time allowing for these discharges.¹⁴⁰ DEC must perform a facility by facility analysis to clearly identify where and how zones of deposit will accumulate. Currently there is not enough information to support the draft permit's assertion that water quality standards will be met.¹⁴¹ As written, the draft permit does not comply with the requirements for zones of deposit and must provide specificity and analysis pertaining to accumulation of materials on the seafloor.

DEC should not authorize zones of deposit in the general permit. The draft permit should limit discharges appropriately so they fall within the parameters where seafloor deposits cannot accumulate. Zones of deposit are inappropriate for inclusion in the general permit, as they require separate limitations on discharge and should require individual monitoring.

B. Zones of Deposit Require Facility by Facility Authorization.

The permit must analyze the potential for zones of deposit on a facility-by-facility basis. DEC proposes authorizing zones of deposit based on discharge type in the general permit. Specifically, the draft permit allows for zones of deposit for drilling fluids and drill cuttings, excess cement slurry, and fluids, cement, and cuttings at the seafloor. This analysis does not account for any of the site-specific conditions that are likely to impact the potential issues with accumulation for zones of deposit. By not taking site-specific conditions into account, the analysis fails to address relevant factors like the depth of the water column above the deposit, the

¹³⁵ 18 AAC 83.205(b)(2)(C), (D).

¹³⁶ Alaska Dep't of Env'tl. Conservation, Draft Authorization to Discharge Under the Alaska Pollutant Discharge Elimination System for Mobile Oil and Gas Exploration, Development, and Production in State Waters in Cook Inlet: General Permit No. AKG 285100, at 30 (2013).

¹³⁷ Fact Sheet at 85; Draft Permit at 49.

¹³⁸ 18 AAC 83.205(d).

¹³⁹ Section VI.B.

¹⁴⁰ Fact Sheet at 85.

¹⁴¹ *Id.*; 18 AAC 83.205(c).

likely distribution and dispersion of the deposit, present water conditions and quality surrounding each deposit, seasonal conditions, and other factors. It is impossible to accurately ascertain whether the required water quality standards will be met outside the zone of deposit for each facility without considering site-specific factors. DEC's conclusion that "all uses of the waterbody will be protected beyond the boundary of the zone of deposit and chronic mixing zone" does not take into account the conditions from specific facilities.¹⁴² There is no way to determine if WQS are "met at every point outside the zone of deposit," as required by the regulations.¹⁴³ Conditions are highly variable for each facility and type of discharge in Cook Inlet. DEC's zones of deposit analysis must consider discharge location, the nature of the discharge, and other site-specific variables. As a result, DEC should not authorize zones of deposit through the general permit and should require individual permits for any facilities whose discharges are likely to lead to a zone of deposit.

C. DEC's Analysis of the Zones of Deposit Lacks Transparency.

It is unclear what analysis DEC performed related to the zones of deposit because DEC does not specify the data or studies it used to determine that zones of deposit are appropriate. DEC states the zone of deposit analysis relies upon "using technical information contained in various applications and [Drilling Fluid Plans] . . . and other available resources."¹⁴⁴ Generally referencing that data and resources used does not provide the public with an understanding of the types of materials considered or depth of assessment.

Additionally, in order to adequately assess the zone of deposit factors, DEC can require an applicant to provide responsive information considering the six factors.¹⁴⁵ By not listing the "various applications" relied upon to authorize the deposits, it is impossible to understand which facilities DEC expects to authorize deposits for. To understand the scope and locations of zones of deposit, DEC should be specific about where zones are expected to occur for each specific type of authorized discharge. DEC should be transparent about the data used to authorize zones of deposit, including the specific applications, drilling fluid plans, and available resources relied upon.

D. The Zones of Deposit Fail to Protect for Human Health, Aquatic Life, and Wildlife Impacts.

DEC's analysis is insufficient to explain how authorizing zones of deposit will protect for human health, aquatic life, and other wildlife. The draft permit states that zones of deposit forming with "coarse-grained particles, including [those with] drilling fluids adhered to their surface, will have no direct or indirect impact on human health, [and] will not bioaccumulate or persist in the environment."¹⁴⁶ DEC asserts that impacts on aquatic or other wildlife will not

¹⁴² Fact Sheet at 86; *See also* LaLiberte Report at 5–13.

¹⁴³ 18 AAC 70.210(a).

¹⁴⁴ Fact Sheet at 85.

¹⁴⁵ 18 AAC 70.210(a).

¹⁴⁶ Fact Sheet at 85.

occur because deposited material will only exist on the seafloor for a “short period,” even in shallow areas.¹⁴⁷ The draft permit does not define what “short period” means, and fails to explain how this dispersion is guaranteed in all scenarios.

The draft permit does not explain how the accumulation of heavy metals will not harm aquatic life and wildlife. DEC test sites found concentrations of metals including barium, cadmium, chromium, copper, nickel, lead, and zinc present at all sampling stations for bottom sediments.¹⁴⁸ The human health section claims that “concentrations of many metals in bottom sediments were below sediment quality guidelines that evaluate effects to bottom dwelling test organisms.”¹⁴⁹ The human health analysis further notes that WQS do not include sediment quality standards, and that heavy metals are unlikely to be the cause of population decline for the threatened sea otters and endangered Stellar sea lion and Cook Inlet beluga whales.¹⁵⁰ DEC cannot support this assertion by citing to outdated studies without further analysis. Notably, the aquatic life analysis fails to mention or analyze impacts from zones of deposit. The aquatic life analysis should also consider the potential for smothering or displacing bottom dwelling animals. DEC’s conclusions are troubling, as they do not account for actual impacts to aquatic life and human health through the bioaccumulation of heavy metals. DEC is currently gathering data on bioaccumulation through its own studies. DEC should provide a detailed analysis for all discharge sites related to the proposed zones of deposit and the potential impacts to human health, aquatic life, and wildlife.

Overall, DEC’s analysis is insufficient to authorize the proposed zones of deposit. Such accumulations are inappropriate to protect the environmental health of Cook Inlet. The draft permit should consider zones of deposit on a facility by facility basis, be transparent about data and analysis, and analyze all factors to ensure it adequately considers human health, aquatic life, and wildlife impacts.

V. DEC’S ANTIBACKSLIDING ANALYSIS IS DEFICIENT.

When renewing or reissuing a permit, antibacksliding requirements require a permit to be “at least as stringent” as the previous permit prohibiting reductions in effluent limitations, standards, or conditions.¹⁵¹ Less stringent permit provisions for effluent limitations, standards, or conditions are only allowed if “circumstances on which the previous permit was based have materially and substantially changed since the permit was issued and the change in circumstances would constitute cause for permit modification or revocation and reissuance.”¹⁵² Cause is based upon the department’s receipt of new information or a permittee’s request to modify or revoke a permit.¹⁵³

¹⁴⁷ *Id.* at 85–86.

¹⁴⁸ *Id.* at 83.

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*; *see also* Section VIII.

¹⁵¹ 18 AAC 83.480(a); 33 U.S.C. § 1342(o)(1).

¹⁵² 18 AAC 83.480(a).

¹⁵³ *Id.* at 83.135(a), (c)

Alaska only allows for backsliding in very limited circumstances, specifically when: 1) there is “a material and substantial alteration or addition to the permitted facility that justifies the application of a less stringent effluent limitation occurred after permit issuance;” 2) new “information other than revised regulations, guidance, or test methods that would have justified the application of a less stringent effluent limitation is now available but was not available at the time of permit issuance” or technical mistakes were made; 3) “a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;” 4) modification is allowed under the CWA effluent limitation standards; or 5) the permittee fails to meet the proposed standards under the previous permit, but the level of pollutant still meets the effluent guidelines in effect at the time of the permit issuance.¹⁵⁴ The CWA provides an absolute floor, prohibiting backsliding for “the relaxation of effluent limitation in all cases if the revised effluent limitation would result in a violation of applicable effluent guidelines or water quality standard, including antidegradation requirements.”¹⁵⁵ There are serious flaws in the general permit with regard to backsliding. DEC only identifies that it is reducing standards with regard to Whole Effluent Toxicity (WET) limits and fails to acknowledge the numerous other ways in which it is backsliding in the permit. As a result, DEC relaxes multiple standards and increases permit effluent limitations without undertaking the required antibacksliding analysis. DEC also fails to provide an adequate justification for its decision to backslide on the chronic WET limits. This section addresses each of these violations in turn.

A. DEC Backslides in the Permit Without Acknowledging It Is Doing So and Without Sufficient Analysis.

The draft permit reduces the standards in the permit through several permit modifications — all without undertaking any backsliding analysis or even acknowledging that the permit allows for backsliding. A backsliding analysis is required to adopt less stringent permit requirements.¹⁵⁶ DEC modifies the draft permit in multiple ways that reduce the requirements applicable to facilities in previous permits, all without engaging in a backsliding analysis. DEC allows for illegal backsliding in the draft permit by increasing the linear sizing of the general permit’s mixing zones; allowing facilities that were previously required to meet a zero discharge requirement to discharge under the general permit; removing the prohibition on new sources; and reducing the size of the buffer zones for sensitive areas without justification or analysis.

¹⁵⁴ *Id.* at 83.480(b).

¹⁵⁵ 33 U.S.C. § 1342(o)(3); *see* U.S. Env’t Prot. Agency, NPDES Permit Writers’ Manual § 7.2.1.4, at 7–4 (Sept. 2010) available at https://www.epa.gov/sites/production/files/2015-09/documents/pwm_chapt_07.pdf (last visited May 21, 2019); *see also* Memorandum from James R. Elder, Director Office of Water Enforcement and Permits to Water Management Division Directors, Regions I-X NPDES State Directors, at 8 (undated) (Regulations prohibiting backsliding also “act[] as a floor, by restricting the extent to which water quality-based permit limitations may be relaxed.”).

¹⁵⁶ 18 AAC 83.135(b), 83.480.

1. *Mixing Zones*

DEC impermissibly expands the linear size of all mixing zones. The general permit bases this expansion “on the evaluation of sufficient evidence.”¹⁵⁷ This modification creates mixing zones that all increase substantially in size, with less rigorous permit conditions than the 2007 general permit.¹⁵⁸ DEC fails to acknowledge this expansion or provide any analysis.¹⁵⁹ DEC provides new mixing zone modeling and analysis, but backsliding would not allow mixing zones to be expanded under this theory.¹⁶⁰ For example, new information can only justify backsliding if there is a decrease in pollutants discharged.¹⁶¹ Here, DEC expands the mixing zones by increasing their sizes substantially.¹⁶² The mixing zone’s surface area will increase by the following percentages: Trading Bay, 872%; Middle Ground Shoal, 11,288%; Granite Point Tank Farm, 610%; Baker platform, 2,550%; Bruce Platform, 1,472%; Tyonek A platform, 54,240%; and Dillon platform, 933%.¹⁶³ These increases are not insignificant as DEC suggests.¹⁶⁴ In addition, this increase in linear size means that discharges will not be met at the boundary of the mixing zones allowed though the 2007 general permit. Larger mixing zones also increased pollutant load, which DEC also fails to acknowledge in its backsliding analysis.¹⁶⁵ DEC may not expand the mixing zone sizing due to backsliding constraints.

2. *Osprey*

DEC proposes to authorize Osprey’s permit under the general permit and subject it to lower standards than applied in its previous individual permit. Osprey was previously required under an individual permit to reinject and meet a zero discharge requirement for produced water. DEC is now proposing to modify Osprey’s permit to relax this requirement and allow for Osprey to discharge produced water.¹⁶⁶ DEC also lifts a protective buffer for the Redoubt Bay Critical Habitat Area to allow for this discharge. Despite this, DEC fails to conduct any backsliding analysis or to even acknowledge that it is backsliding.

¹⁵⁷ Fact Sheet at 80.

¹⁵⁸ *Id.*; LaLiberte Report at 1, 15–16.

¹⁵⁹ Fact Sheet at 112–113.

¹⁶⁰ 18 AAC 83.135(b)(2).

¹⁶¹ U.S. Env’t Prot. Agency, NPDES Permit Writers’ Manual § 7.2.1.2, at 7-3 (Sept. 2010) available at https://www.epa.gov/sites/production/files/2015-09/documents/pwm_chapt_07.pdf (last visited May 21, 2019).

¹⁶² Fact Sheet at 78–79 (“While it may have been envisioned that a more robust mixing zone analysis would lead to smaller mixing zones, the result may be contrary to this vision due to regulatory requirements. However, as discussed in other sections of this Fact Sheet, increases in mixing zone sizes do not mean that pollutant loads under the permit have increased.”).

¹⁶³ LaLiberte Report at 14.

¹⁶⁴ Fact Sheet at 70.

¹⁶⁵ LaLiberte Report at 16–18.

¹⁶⁶ Fact Sheet at 47.

Inclusion of Osprey in the draft permit increases the total amount of produced water that facilities will discharge to Cook Inlet.¹⁶⁷ DEC attempts to downplay the impact of the Osprey discharge, suggesting the facility is not a “new or expanded” discharge because the facility’s “limited parameters in the Permit are consistent with the 2007 GP, which suggests the discharge of produced water is not expanding.”¹⁶⁸ However, because Osprey was previously required in its individual permit to meet a zero discharge requirement, DEC cannot now attempt to lower the standards applicable to that facility by sneaking it into the general permit. DEC does not provide any antibacksliding analysis related to the inclusion of the Osprey facility. DEC cannot backslide by reducing the permit requirements from Osprey’s Individual Permit.

Osprey’s discharges are especially worrisome in light of the fact that Osprey cannot meet the current ELGs for the proposed oil and gas discharges.¹⁶⁹ The draft permit notes that Osprey will need to conduct additional treatment prior to discharge in order to meet the ELGs.¹⁷⁰ The draft permit does not explain how Osprey plans to meet oil and grease standards or how it plans to treat its effluent. Instead, the general permit exempts Osprey from meeting the ELGs in a deficient antibacksliding analysis. DEC must require Osprey to meet the ELGs. Overall, DEC should not authorize Osprey to discharge under the permit because it would violate antibacksliding requirements and there is no indication Osprey can meet the ELGs.

3. *Tyonek A*

DEC also adds the Tyonek A platform as a facility allowed to discharge produced water to the draft permit without a backsliding analysis. Tyonek A previously reinjected produced water but now requests a variance that will allow it to discharge produced water into Cook Inlet.¹⁷¹ Similar to Osprey, no antibacksliding analysis was performed for this facility. The permit illegally backslides on the standards applicable to Tyonek A without conducting an appropriate backsliding analysis.

4. *New Sources — Offshore Subcategory Facilities*

DEC improperly removes the requirement in the previous permit that obligates new sources to obtain coverage under individual permits.¹⁷² In doing so, DEC broadens the permit scope and changes the conditions of the permit without presenting the required analysis or an applicable antibacksliding exemption it claims applies to that change.¹⁷³ DEC claims that the

¹⁶⁷ *Id.* at 47; *id.* at 115 (DEC recognizes Osprey increases the produced water discharges for the draft permit, as there are higher flow rates even with the discontinuance of the Anna Platform.).

¹⁶⁸ Fact Sheet at 115.

¹⁶⁹ *Id.* at 55.

¹⁷⁰ *Id.*

¹⁷¹ *Id.* at 46 (“Tyonek A uses gas flotation and typically injects but requests authorization to discharge produced water.”).

¹⁷² Fact Sheet at 22; 40 C.F.R. Pt. 435.

¹⁷³ 18 AAC 83.480(a).

New Source Performance Standards (NSPS) discharge limitations will not be altered, and that these changes just allow more facilities to apply for inclusion in the General Permit. However, this constitutes illegal backsliding and DEC has failed to account for this change in its backsliding analysis.

5. *Additional Discharges Not Included in the Original Permit*

The draft permit backslides by expanding the scope of the permit to encompass and allow for discharges from HDD and geotechnical surveys. Previously, the 2007 permit did not include construction of new port facilities or pipelines for offshore geotechnical surveys and HDD.¹⁷⁴ DEC now proposes inclusion of these activities, allowing for drilling fluids to be “separated and recycled downhole and the cutting discharged overboard.”¹⁷⁵ After a borehole is drilled, this provision also allows the discharge of drill cuttings and drilling fluids.¹⁷⁶ Additionally, unlike other discharges in the draft permit, HDD discharges occur from an onshore facility drilling out under the seafloor through hydrostatic pressure and penetration.¹⁷⁷ DEC acknowledges that “[t]he sizing requirements for HDD discharges can be too varied to consider a standardized mixing zone.”¹⁷⁸ DEC does not describe what additives are allowed for Class C drilling fluids and improperly asserts they are not subject to the ELGs.¹⁷⁹ Not only do these discharges expand the type of permit activities and standards without any backsliding analysis, but they are also inappropriate for inclusion in a general permit as discussed in Section II.D. DEC must address these additional and reduced discharge standards through a backsliding analysis.

DEC also impermissibly expands the scope of the permit by adding synthetic discharges and drilling fluids to the general permit. Synthetic discharges were not included in the 2007 general permit and are not allowed under the ELGs.¹⁸⁰ The addition of synthetics constitutes a significant and prohibited expansion of the permit. DEC backslides by expanding the general permit with the addition of synthetic drilling fluid discharges.

6. *Reduced Discharge Standards for Buffer Zones*

DEC has also failed to account for the fact that it has significantly reduced some of the restrictions on where facilities are allowed to discharge without conducting a backsliding analysis. The 2007 permit included a 4,000 meter discharge prohibition for the Trading Bay State

¹⁷⁴ Fact Sheet at 22.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.* at 23.

¹⁷⁷ *Id.*

¹⁷⁸ *Id.*

¹⁷⁹ Section II.D.1.

¹⁸⁰ Section II.D.3; 40 C.F.R. Part 435; 66 FR 6850, 6850 (Jan. 22, 2001); *See* U.S. Env’t Prot. Agency, EPA Effluent Limitation Guidelines for Oil and Gas Facilities, Update: Synthetic Fluids, EPA-821-B-00-014 at 5-229 (2000)

Game Reserve and the Redoubt Bay Critical Habitat Area.¹⁸¹ The draft permit dramatically reduces these buffers from 4,000 meters down to 1,000 meters. DEC fails to offer any rationale for reducing these protections for critical habitat.¹⁸² The Redoubt Bay Critical Habitat Area reduction specifically applies to the Kustatan and Osprey active leases. DEC provides no analysis of the Kustatan, the processing facility for Osprey's injection. DEC also does not include protections for the Goose Bay State Game Refuge, Potter Point State Game Refuge, McNeil River State Game Refuge, and Anchorage Coastal Wilderness Refuge in the draft general permit — four areas that were protected under the 2007 general permit.¹⁸³ In addition, DEC removes the prohibition against discharges in previously restricted areas without analysis. The general permit removes the prohibition for discharges in the 5.5 meter isobath adjacent to Clam Gulch Critical Habitat area and from Crescent River northward to a point one-half mile north of Redoubt Point. Discharges would also be allowed in the previously restricted Mineral Management Service Lower Kenai Peninsula Deferral Area and Barren Island Deferral Area, including the area between the deferral areas and the shore.¹⁸⁴ This constitutes improper backsliding.¹⁸⁵

B. DEC's Antibacksliding Analysis for the Reduced WET Requirements Is Inadequate.

The draft permit's antibacksliding analysis of the WET limits is insufficient. DEC claims that “[a]ll effluent limitations, standards, and conditions in the permit are as stringent, or more stringent, than those in the 2007 [general permit] except for the removal of chronic WET limits and associated accelerated testing and [Toxicity Reduction Evaluation/Toxicity Identification Evaluation] requirements for produced water.”¹⁸⁶ DEC bases this reduction of WET limits, accelerated testing requirements, and Toxicity Reduction Evaluation/Toxicity Identification Evaluation (TRE/TIE) produced water requirements on “new toxicity data that provided more accurate characterization of the effluent.”¹⁸⁷ There is no further analysis of whether there are any other factors that may have influenced the characterization of the effluent.

¹⁸¹ Draft Permit at 56–57; Fact Sheet at 19; *id.* at 28 (2013 Exploration Permit upheld the 4,000 meter prohibition).

¹⁸² This is detrimental because Osprey is currently unable to meet NSPS for oil and grease discharges.

¹⁸³ 2006 Fact Sheet at 15.

¹⁸⁴ U.S. Env't Prot. Agency, Fact Sheet: Plans to Reissue a Nat'l Pollutant Discharge Elimination System (NPDES) General Permit for Oil and Gas Exploration, Development and Production Facilities Located in State and Federal Waters in Cook Inlet, Permit No. AKG 315000, at 11 (Feb. 23, 2006) [hereinafter 2007 Fact Sheet].

¹⁸⁵ 18 AAC 83.480(a); *See also*, Section XI Monitoring for exploration in this exemption does not require certain discharges from Class B1 and Class C drilling fluids for HDD.

¹⁸⁶ Fact Sheet at 113.

¹⁸⁷ *Id.*

Although new data not available at the time of the previous permit may sometimes be a valid reason for modification,¹⁸⁸ DEC uses this new data to not only justify reducing standards for the facilities where the new data was collected, but also lowers the bar for inoperative facilities and other facilities with outdated or no data. DEC does not have sufficient new data or information for all the facilities where it is proposing reduced standards. For example, DEC backslides in this context for the currently inoperative Baker and Dillon facilities where no data was collected.¹⁸⁹ In addition, the Bruce facility and Tyonek A platform currently do not discharge produced water, but would be subject to these lower standards if they later request to discharge produced water. DEC relies on outdated data for those facilities that “may not reflect an accurate assessment of chronic toxicity.”¹⁹⁰ For the Osprey Platform, which historically reinjected produced water and was previously covered under an individual permit, DEC relies on a single sample of chronic WET characterization data from 2017 to assume reductions to currently required testing standards are unnecessary.¹⁹¹

The data used to justify reduction in produced water requirements and testing is insufficient to justify backsliding in the draft general permit. Overall, DEC’s current analysis concludes that chronic toxicity will remain at low levels for certain facilities by relying on incomplete information from nonexistent and outdated data. It is inappropriate for DEC to reduce standards and backslide in the draft permit, particularly when it does not have sufficient information or an adequate analysis to support that decision. DEC’s current antibacksliding analysis is not sufficient to support a reduction for facilities’ WET limits, accelerated testing requirements, or TRE/TIE produced water requirements.

VI. THE PERMIT DOES NOT MEET WATER QUALITY STANDARDS.

A. DEC’s mixing zone modeling is deficient.

Mixing zones as modeled in the draft permit do not meet applicable standards, nor do they reflect reality. DEC can only authorize a mixing zone if the department finds that available evidence reasonably demonstrates that (1) the mixing zone will comply with the mixing zone regulations, (2) “the mixing zone will be as small as practicable;” and (3) “an effluent or substance will be treated to remove, reduce, and disperse pollutants, using methods found by the department to be the most effective and technologically and economically feasible consistent with the highest statutory and regulatory treatment requirements.”¹⁹² When determining a mixing zone’s appropriate size, DEC can only vary from the as small as practicable mixing zone if the “department finds that evidence is sufficient to reasonably demonstrate that these size restrictions can be safely increased.”¹⁹³ The mixing zone must meet water quality criteria at its boundary and

¹⁸⁸ 33 U.S.C. § 1342(o); 40 C.F.R. 122.44(l)(2)(i)(B)(l).

¹⁸⁹ Fact Sheet at 56.

¹⁹⁰ *Id.*

¹⁹¹ *Id.* Compare with other facilities that provided 14 and 17 samples since 2012.

¹⁹² 18 AAC 70.240(b), (c)(1), (k).

¹⁹³ 18 AAC 70.240(k)(1)(A), (B) (The mixing zone still cannot exceed some limitations.

“[F]or estuarine and marine waters, measured at mean lower low water, the cumulative linear

not be expected to be lethal to organisms passing through the mixing zone or have a toxic effect outside the mixing zone.¹⁹⁴

The mixing zones in the general permit do not comply with these regulations. As discussed in the following sections, DEC has failed to account for the actual conditions in Cook Inlet, has failed to develop the mixing zones pursuant to the appropriate guidance documents, has failed to properly analyze existing waterbody uses, and has not made the mixing zones as small as practicable. DEC's alteration of the mixing zone sizes, purportedly to incorporate in new information, in fact expands the size of the mixing zones and constitutes improper backsliding.

1. DEC has not followed applicable regulations and guidance documents that are supposed to guide DEC's analysis of the mixing zones.

There are numerous problems with DEC's mixing zones analysis. First, DEC does not account for the actual conditions of Cook Inlet in the draft permit. DEC models Cook Inlet using conditions resembling a river, when in actuality, the waterbody is an estuary.¹⁹⁵ The conditions DEC includes in CORMIX do not support an accurate simulation and are missing tidal simulation at time T relative to slack tide, instantaneous ambient velocity, maximum tidal velocity, rate of tidal reversal, and the period of reversal.¹⁹⁶ DEC also fails to account for seasonal variations that add significant variability to Cook Inlet.¹⁹⁷ These conditions must be included in CORMIX to accurately reflect the existing estuarine conditions in Cook Inlet.

The draft permit authorizes a variety of mixing zones. However, DEC does not appear to follow the correct guidance documents for development of the mixing zones. DEC is now authorizing mixing zones for produced water and drilling fluids and drill cuttings without a clear basis in the guidance and without providing sufficient information on its underlying analysis.¹⁹⁸ Yet, the draft permit authorizes mixing zones outside of the allowable discharge length.¹⁹⁹ DEC does not even tie its analysis to these guidance documents.²⁰⁰ DEC needs to cite to underlying

length of all mixing zones intersected on any given cross section of an estuary, inlet, cove, channel, or other marine water may not exceed 10 percent of the total length of that cross section; and the total horizontal area allocated to all mixing zones at any depth may not exceed 10 percent of the surface area.”).

¹⁹⁴ 18 AAC 70.255(b).

¹⁹⁵ LaLiberte Report at 7–8 (“Cook Inlet must be modeled as an estuary using representative ambient conditions.”).

¹⁹⁶ LaLiberte Report at 6.

¹⁹⁷ *Id.* at 8.

¹⁹⁸ Draft Permit at 44.

¹⁹⁹ LaLiberte Report at 4, 10–11.

²⁰⁰ LaLiberte Report at 1 (The draft permit does not “adhere[] to widely used guidance for sizing mixing zones in both the 2007 and 2019 permits. ADEC does not identify the EPA guidance in defining mixing zones in the Technical Support Document [], nor does ADEC delineate the guidance it is using.”); *See also*, Dave LaLiberte, Review of Draft NPDES General Permit for Cook Inlet, Alaska Oil and Gas Operators (May 31, 2006).

guidance and tie its analysis to those standards to show that it is engaging in the appropriate analysis. DEC has failed to tie its analysis to the appropriate guidance documents, and has therefore failed to substantiate the analysis for the mixing zones.

Additionally, DEC appears to be using the Washington State methodology for mixing zones.²⁰¹ This is inappropriate as the restrictions for this modeling do not allow for the mixing zones DEC proposes.²⁰² DEC must present methodology that accurately reflects the conditions of Cook Inlet.

2. *DEC must analyze existing waterbody uses.*

Additionally, DEC regulations indicate that, when determining the size and appropriateness of a mixing zone, the department should ensure that existing uses of the waterbody outside the mixing zone are maintained and fully protected.²⁰³ The discharge can “neither partially nor completely eliminate an existing use of the waterbody outside the mixing zone” and cannot “impair the overall biological integrity of the waterbody.”²⁰⁴ In making this determination, the department considers several factors, including the (1) “physical, biological, and chemical characteristics of the receiving water, including volume and flow rate;” (2) “effects the discharge might have on the uses of the receiving water;” (3) “flushing and mixing characteristics of the receiving water;” (4) “effluent treatment technology requirements . . . ;” (5) “characteristics of the effluent, including volume, flow rate, dispersion, and quality after treatment;” (6) methods for analyzing and modeling near- and far-field mixing; and (7) “cumulative effects of multiple mixing zones and diffuse, nonpoint source inputs located within, or affecting, the receiving water.”²⁰⁵

DEC’s analysis of whether existing uses will be protected is flawed. DEC provided almost no analysis or justification for its conclusions on the various regulatory factors for determining whether a discharge will impair the waterbody or partially or completely eliminate an existing use of the waterbody. When “an agency does not consider an important factor, its decision is regarded as arbitrary, and those important factors which it did consider, must be discussed in the decisional document.”²⁰⁶ Additionally, DEC is required to “cogently explain why it has exercised its discretion in a given manner.”²⁰⁷ Here, DEC vastly expands the size and pollutant loadings in the draft general permit. All mixing zones will increase in surface area: Trading Bay increases 872%, Middle Ground Shoal increases 11,288%, Granite Point Tank Farm increases 610%, Baker platform increases 2,550%, Bruce platform increases 1,472%,

²⁰¹ LaLiberte Report at 1, 11.

²⁰² *Id.*

²⁰³ 18 AAC 70.245(a).

²⁰⁴ *Id.* at 70.245(a)(1)–(2).

²⁰⁵ *Id.* at 70.245(b).

²⁰⁶ *Ninilchik Traditional Council v. Noah*, 928 P.2d 1206, 1217 (Alaska 1996) (quoting *Trustees for Alaska v. State, Dep’t of Nat. Res.*, 795 P.2d 805 (Alaska 1990)).

²⁰⁷ *Motor Vehicle Mfrs. Ass’n of U.S., Inc. v. State Farm Mut. Auto Ins. Co.*, 463 U.S. 29, 48 (1983).

Dillon platform increases 933%, and Tyonek A platform increases 54,240%.²⁰⁸ With Trading Bay's discharges comprising over 80% of the total discharges in the general permit the 872% increase in mixing zone surface area is significant and deeply troubling.²⁰⁹ DEC must protect for existing uses and DEC does not explain how these surface area expansions will ensure protection.

For DEC's analysis that "existing uses beyond the boundary of the chronic mixing zone will be maintained and fully protected," its conclusion relies on its determination "that all authorized mixing zones have been sized to ensure all water quality criteria will be met at, and beyond, the boundary of the chronic mixing zone . . . under the terms of the Permit."²¹⁰ The draft permit vastly expands the discharges and facilities allowed under the general permit. In addition, as described above, DEC increases the size and overall quantity of discharges under the general permit. DEC fails to acknowledge that significant changes and authorizing larger mixing zones will lower water quality. EPA should be concerned about adequate oversight and enforcement of this permit as DEC has relaxed the mixing zone sizes to such an extreme degree they are effectively no longer enforceable.²¹¹ DEC only provides conclusory, unsupported statements about its determination that existing uses will be maintained and fully protected.²¹² DEC provides no indication of the process or reasoning behind this conclusion, and the statement fails to recognize the cumulative impact of these additional discharges to Cook Inlet. DEC is required to explain how it reached its conclusions.

DEC's finding that mixing zones will not be discharged at levels that will create a public health hazard is erroneous. The agency may not authorize discharges that are expected to cause "carcinogenic, mutagenic, or teratogenic effects on, or otherwise present a risk to, human health."²¹³ To support its assertions that there is no bioaccumulation or improper accumulations of dissolved metals, DEC cites to outdated studies from 1993 and 2005 and the produced water study report developed for the 2007 general permit.²¹⁴ Merely asserting that the permit will be protective of human health is not enough. Studies must be updated to assert DEC's understanding that pollutants still do not bioaccumulate creating a threat to human health — millions of tons of toxic waste have been discharged into Cook Inlet since the last permit. The LaLiberte Report predicts the conditions currently proposed under the general permit will lead to an increase in undetected violations of permit conditions.²¹⁵ Updated assessment and data is required to assess the impacts of discharges since the last permit was issued over ten years ago.

DEC has also failed to adequately analyze the risks to passing organisms in the mixing zone. Under 18 AAC 70.255, a "discharge may not cause or reasonably be expected to cause . . .

²⁰⁸ LaLiberte Report at 14, Table 2.

²⁰⁹ *Id.* at 13, Table 1; *id.* at 14, Table 2.

²¹⁰ Draft Permit at 82.

²¹¹ *See* 40 C.F.R. § 123.44.

²¹² Draft Permit at 82; *see also, id.* at 114–115.

²¹³ 18 AAC 70.250(a)(1)(B).

²¹⁴ Draft Permit at 82–83.

²¹⁵ LaLiberte Report at 2.

lethality to passing organisms in the mixing zone[] or . . . a toxic effect in the water column, sediments, or biota outside the boundaries of the mixing zone.”²¹⁶ The acute aquatic life criteria are also required to “apply at and beyond the boundaries of a smaller initial mixing zone surrounding the outfall” that is “sized to prevent lethality to passing organisms.”²¹⁷ DEC only addresses the lethality question for the Bruce platform, which has the largest acute mixing zone of 80 meters and has increased in surface area by 1,472%.²¹⁸ DEC proposes an average of six pounds of oil and grease discharge every day from the Bruce platform.²¹⁹ DEC merely calculates the time it might take an organism to swim through the Bruce mixing zone and concludes that further analysis is unnecessary because the organism would likely swim through the zone in less than fifteen minutes, the amount of time “typically used to determine lethal exposure in this scenario.”²²⁰ There are several issues with DEC’s conclusion. First, DEC provides no authority to substantiate that fifteen minutes is the standard lethal exposure time to calculate lethality. Second, DEC fails to consider the exact concentrations of metals, wastewater, produced water, and other discharges the organism would encounter in the Bruce Platform’s acute mixing zone. Third, Cook Inlet is a complex waterbody, the concentrations and current speed are substantially different for each acute mixing zone. DEC’s conclusion that because Bruce has the largest acute zone that all other platforms will not cause lethality in other conditions is arbitrary in addition to the fact the mixing zone modeling does not accurately reflect the conditions in Cook Inlet. Fourth, DEC does not account for the entire pollutant load in Cook Inlet with the addition of new facilities,²²¹ where Osprey and Sabre are within 4,000 meters of critical habitat areas. The Osprey facility would fail acute toxicity for all criteria, and there may be benthic impacts to the sediments.²²² For the Sabre platform, the outfall pipe discharges in an area with a velocity less than 3 mps, a condition with poor mixing characteristics.²²³ DEC must fully analyze risks to passing organisms.

3. The mixing zones are not as small as practicable.

DEC failed to demonstrate — as required by its regulations — that the mixing zones will be as small as practicable. DEC asserts the modeling uses the new and improved techniques to better account for the realities of the mixing zones. Yet, these new techniques and data remain unexplained and result in increased mixing zones that are as large as possible for all reissued facilities.²²⁴ DEC fails to explain how these mixing zones achieve the minimum possible results, and authorizes mixing zones larger than the previous permit.

²¹⁶ 18 AAC 70.255(b).

²¹⁷ *Id.* at 70.255(d).

²¹⁸ LaLiberte Report at 14.

²¹⁹ *Id.* at Appendix B1, Table B1-1.

²²⁰ Fact Sheet at 80.

²²¹ LaLiberte Report at 24.

²²² *Id.* at 27.

²²³ *Id.* at 31.

²²⁴ LaLiberte Report at 4.

For example, DEC states that the already discharging Middle Ground Shoal-A, M Ground Shoal-C, and Steelhead facilities will require mixing zones larger than the standard 100-meters “initially” to ensure compliance.²²⁵ DEC “anticipates that by the next permit term [pollution reduction] strategies will result in meeting the criteria at the 100 meter mixing zone boundary,” but does not tie compliance or reduction explicitly to any incentives, monitoring, or time requirements.²²⁶ This is insufficient. It has taken DEC over ten years to reissue this permit. DEC cannot forego addressing this issue now, and defer it for another time. The Middle Ground Shoal mixing zone is increasing by 11,288% in surface area.²²⁷ DEC should require the implementation of pollution reduction strategies in a timely matter and ensure compliance with its already lackluster standards.

The mixing zone analysis uses inaccurate assumptions in order to reach its final conclusions. As described in the attached LaLiberte Report, the modeling performed for the draft general permit does not accurately reflect the conditions in Cook Inlet. Tidal, stratification and outfall conditions were not critically evaluated.²²⁸ Temperatures salinity, tidal flow velocities and directions, stratification, and freshwater inputs were set at unrealistic critical period values.²²⁹ Representative effluent concentrations were not used, which results in the mixing zones being larger than appropriate without a technical basis.²³⁰ Seasonal variability is also ignored in the CORMIX modeling.²³¹ DEC also does not explain its conclusion that, “[b]ased on the evaluation of sufficient evidence . . . the linear size restriction can safely be increased. This conclusion considered the implications of all other mixing zones in the area of coverage that were not specifically discussed.”²³² DEC’s rationale for this expansion is inadequate. Because the modeling for the general permit is not accurate, the State did not ensure the smallest possible mixing zones for the general permit.²³³

In addition, because the modeling inputs do not accurately reflect the hydrodynamics of Cook Inlet, the lengths of the mixing zones are substantially larger than appropriate, and likely violate the size requirements of Alaska’s mixing zone regulations.²³⁴ DEC does not explicitly distinguish whether it is using ocean or estuarine conditions for Cook Inlet.²³⁵ Pointing to the unique regional hydrodynamics, DEC ties its modeling results to the 90th percentile current to

²²⁵ Draft permit at 68.

²²⁶ Fact Sheet at 68.

²²⁷ LaLiberte Report at 14, Table 2.

²²⁸ *Id.* at 5–13.

²²⁹ *Id.* at 3.

²³⁰ *Id.* at 1, 3–4, 26.

²³¹ *Id.* at 8–9, 28–29.

²³² Draft Permit at 80.

²³³ 18 AAC 70.240(a)(2).

²³⁴ *See* 18 AAC 70.255(e)(1) (in mixing zones in estuarine and marine environments, the cumulative linear length of all mixing zones intersected on any cross section cannot exceed 10% of the total length of that cross section, nor can the horizontal length exceed 10% of the surface area).

²³⁵ LaLiberte Report at 5–13.

ensure water quality equivalent concentrations are met at the at boundary of the 100 meter radius mixing zone and 10th percentile current conditions within a 25 meter radius zone.²³⁶ The LaLiberte Report finds that “[n]o technical basis is provided for using the 10th or 90th percentile current (ambient velocity) values as confirmation of critical current speeds.”²³⁷ These percentiles appear to be based on Washington state methodology which uses estuarine conditions and limits mixing zones.²³⁸

DEC has completely failed to discuss its reasoning on several other factors that the agency is required to consider when authorizing a mixing zone. DEC failed to discuss its analysis of the physical, biological, and chemical characteristics of the receiving water (*e.g.*, Cook Inlet is an estuary, not an ocean, with extreme tidal fluctuations, including significant slack tides), or the discharge characteristics, including volume and flow rate, the actual effects the discharge might have on the uses, the methods used to analyze and model the mixing, and the cumulative effects of having multiple mixing zones.²³⁹ Mixing zones for C1, C2, and C3 Drilling Fluids and Drill Cuttings associated with HDD activities require project-specific applications which DEC does not describe in the general permit.²⁴⁰

B. DEC’s antidegradation analysis is incomplete and improperly finds the discharges will be protective of the marine environment.

Alaska’s antidegradation policy is intended to protect water quality, existing uses, marine life, recreation, and outstanding natural resources.²⁴¹ The policy is divided into three tiers of water quality and water quality protection.²⁴² DEC can only allow for changes in discharges in limited circumstances if the water quality standards and protections are ensured according to the state’s antidegradation policy. However, DEC’s analysis is deficient. DEC fails to identify the existing uses in its Tier 1 assessment, as required in the policy. DEC’s Tier 2 analysis is also unacceptable. It does not scrutinize or consider the permit’s expanded discharges, fails to recognize Osprey is a new discharge in the general permit, and incorrectly finds produced water discharges from the Osprey platform will meet current standards and conditions.

1. DEC’s Tier 1 analysis is deficient.

DEC’s Tier 1 analysis is inadequate. DEC fails to identify existing uses of Cook Inlet and analyze required protections. The Tier 1 classification states the “existing water uses and the

²³⁶ Draft permit at 65.

²³⁷ LaLiberte Report at 7.

²³⁸ Trading Bay’s mixing zone is 64 times larger than allowed by Washington state methodology. LaLiberte Report at 1.

²³⁹ LaLiberte Report at 5–13.

²⁴⁰ Draft Permit at 44.

²⁴¹ 18 AAC 70.015(a).

²⁴² 18 AAC 70.016(a).

level of water quality necessary to protect those existing uses must be maintained and protected.”²⁴³ DEC may not authorize discharges into Tier 1 waters unless:

(A) existing uses and the water quality necessary for protection of existing uses have been identified based on available evidence, including water quality and use related data, information submitted by the applicant, and water quality and use related data and information received during public comment;

(B) existing uses will be maintained and protected; and

(C) the discharge will not cause water quality to be lowered further where the department finds that the parameter already exceeds applicable criteria in 18 AAC 70.020(b), 18 AAC 70.030, or 18 AAC 70.236(b).²⁴⁴

DEC’s Tier one analysis does not identify the current uses required for protection in Cook Inlet.²⁴⁵ In its entirety, DEC’s analysis of the existing uses and water quality states, “The Department reviewed water quality data, environmental monitoring studies, and information on existing uses within the coverage area. The Department finds the information reviewed as sufficient and credible to identify existing uses and water quality necessary for Tier 1 protection.”²⁴⁶ The draft permit does not state with more specificity which information and studies were considered and what existing uses were identified.²⁴⁷ DEC’s conclusory statement is entirely too vague to demonstrate that DEC has conducted an adequate antidegradation analysis. Cook Inlet has a wide range of uses including important subsistence harvest that is essential to sustaining Alaska Native people’s way of life. As described below, there are significant concerns with the potential for bioaccumulation in subsistence food sources and the wide range of use by the public that are inadequately recognized by DEC. DEC cannot say that existing uses are protected by the permit without identifying and analyzing them.²⁴⁸

DEC’s perfunctory statements that all existing uses are protected are insufficient. There is no indication that DEC even analyzed potential impacts to uses since DEC failed as a threshold matter to even identify those uses. In fact, the discharges will lower water quality for protected marine water uses.²⁴⁹ The general permit recognizes that human consumption and human health are relevant to meeting statutory and regulatory requirements. But the permit concludes, without any analysis, that permit conditions will protect for human consumption and human health, while

²⁴³ 18 AAC 70.015(a)(1).

²⁴⁴ *Id.* at 70.016(b)(5).

²⁴⁵ *Id.* at 70.016(b)(5)(A).

²⁴⁶ Fact Sheet at 114.

²⁴⁷ Existing uses are not identified in the mixing zone analysis. DEC does provide that the permit covers areas utilized for “established processing activities or commercial, sport, personal use, or subsistence fish and shellfish harvesting” but these are not explicitly identified as existing uses of Cook Inlet. Fact Sheet at 82.

²⁴⁸ 18 AAC 70.016(b)(5)(B).

²⁴⁹ *Id.* at 70.020(b).

at the same time authorizing larger mixing zones, waiving protective buffers, and adding new discharges to the permit. DEC expands the mixing zones in the draft general permit. These discharges are likely to exceed allowed pollutant levels and not ensure protection of the waterbody.²⁵⁰ DEC also reduces critical habitat area buffers near rivers supporting spawning salmon without analyzing the changed protections. DEC's analysis does not substantiate that the water quality will be adequate to fully protect existing uses of Cook Inlet.

2. *DEC's Tier 2 analysis is inadequate and not sufficiently protective of water quality.*

Alaska's antidegradation policy requires that, "if the quality of a water exceeds levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality must be maintained and protected."²⁵¹ The draft permit's Tier 2 antidegradation analysis is deficient. DEC fails to acknowledge or analyze the new and expanded discharges under the permit. Additionally, DEC fails to acknowledge that it is required to do a Tier 2 antidegradation analysis for Osprey. The general permit's Tier 2 antidegradation findings are therefore insufficient. This section addresses each of these concerns in turn.

i. DEC failed to conduct the required antidegradation analysis for all new and expanded discharges.

DEC violated the antidegradation policy by failing to perform an antidegradation analysis for all new and expanded discharges in the general permit. DEC must perform a Tier 2 antidegradation analysis for all new or expanded discharges. New and expanded discharges are those "that are regulated for the first time or discharges that are expanded such that they could result in an increase in permitted parameter load or concentration or other changes in discharge characteristics that could lower water quality or have other adverse environmental impacts."²⁵² DEC fails to acknowledge that they still must account for new and expanded discharges when authorizing them under a general permit — the requirement exists for both general and individual permits. A Tier 2 antidegradation analysis is required in order for DEC to include the following new and expanded discharges in the general permit: (1) Furie, Sabre, and Alaska LNG; (2) Class C drilling fluids from non-oil and gas activities; (3) the increase in the size of the mixing zones; (4) the zones of deposit; (5) the discharges in critical habitat areas; (6) the additional, new facilities added to the permit; (7) hydrostatic test water; (8) and excavation dewatering from contaminated sites.

²⁵⁰ DEC states that mixing zones "will not produce objectionable color, taste, or odor in aquatic resources harvested for human consumption, nor will not preclude or limit established processing activities or commercial, sport, personal use, or subsistence fish and shellfish harvesting." Fact Sheet at 82.

²⁵¹ 18 AAC 70.015(a)(2).

²⁵² *Id.* at 70.990(75).

a. Furie, Sabre, and Alaska LNG

DEC acknowledges outside of the antidegradation section that Furie, Sabre, and Alaska LNG are new and expanded discharges in the general permit, and yet completely fails to address any of these dischargers in its antidegradation analysis.²⁵³ DEC is required to conduct a Tier 2 antidegradation analysis for these discharges.

b. Class C Drilling Fluids from Non-Oil and Gas Activities and Synthetic Drilling fluids

As discussed earlier, it is inappropriate for DEC to add synthetic-based and Class C drilling fluids related to non-oil and gas activities to the general permit.²⁵⁴ When adding these to the general permit, DEC also failed to conduct a Tier 2 analysis for this new class of potential discharges.²⁵⁵ DEC finds that “there are no increases in permitted load or concentrations; the geotechnical survey or HDD discharges generally have the same characteristics, or better, as oil and gas discharges and have similar limitations when applicable.”²⁵⁶ Having similar limitations does not exempt DEC from having to do an antidegradation analysis.

DEC impermissibly adds synthetic drilling fluids to the draft general permit. Under the ELGs related to offshore oil and gas activities, facilities are not allowed to discharge synthetic-based drilling fluids.²⁵⁷ Consistent with the ELGs, under the previous permit, permittees were not allowed to discharge synthetic-based drilling fluids. To the extent facilities under the previous permit wanted to discharge drill cuttings with synthetic-based fluids, permittees were first required to remove synthetic-based drilling fluids from the drill cuttings prior to discharge. DEC now proposes to add synthetic-based and Class C drilling fluids to the draft permit to accommodate the discharges and practices related to HDD and other activities. DEC fails to perform an antidegradation analysis for the addition of synthetic drilling fluids.

There are also substantial differences between the existing oil and gas discharges and the new discharges related to Class C drilling fluids. DEC adds Class C drilling fluids which are covered by the ELGs. To add in HDD and similar discharges to this permit, DEC is having to add an entirely new category of drilling fluids to the permit. On the one hand DEC appears to be treating these discharges as unrelated to oil and gas for purposes of determining the applicable ELGs, and yet DEC is also trying to include them within the scope of this permit, which is focused on oil and gas activities. This category of discharges is wholly inappropriate for this permit and should not be allowed. These activities involve discharges to different marine

²⁵³ These facilities significantly expand the permit. *See* LaLiberte Report at 24–35.

²⁵⁴ *See* Section I.C.1.

²⁵⁵ 18 AAC 70.990(75).

²⁵⁶ Fact Sheet at 166.

²⁵⁷ 40 C.F.R. §§ 435.43, 435.44.

environments,²⁵⁸ are subject to different parameters,²⁵⁹ and relate to different discharge quantities than with oil and gas platforms in general.²⁶⁰ As described above in these comments, non-oil and gas activities are substantially different from other activities in the general permit.²⁶¹ DEC also purports to develop a technology-based effluent limit related to this discharge. Any such limit should mirror the existing standards applicable to Class C discharges as they were not allowed in the previous permit. Despite all of these concerns and the addition of these new discharges to the general permit, DEC failed to conduct a Tier 2 antidegradation analysis. DEC is required to conduct that analysis to ensure there is no lowering of water quality.

c. Mixing Zones

Increasing the linear size restriction of all mixing zones requires a Tier 2 antidegradation analysis because DEC is expanding those discharges in a manner that lowers water quality and results in adverse environmental impacts.²⁶² The draft general permit expands all mixing zones in the general permit.²⁶³ DEC maintains that pollutant loads have not increased and that it is just altering the geographical area of the zones.²⁶⁴ Yet, DEC is in fact expanding the size of these mixing zones and exceeding the mass daily loadings.²⁶⁵ These mixing zones are not as small as practicable, as required by law to protect for the biological integrity of the waterbody.²⁶⁶ As discussed above and in the attached report, DEC has failed to prove that water quality will be met at the boundary of the chronic mixing zone.²⁶⁷ This may have adverse environmental impacts for public health and passing organisms. In addition, an operator may apply to increase discharge of produced water for facilities already discharging under the general permit.²⁶⁸ An antidegradation Tier 2 analysis is required for the alteration in the mixing zones.

d. Zones of Deposit

Zones of deposit are an expanded discharge category requiring a Tier 2 antidegradation analysis. For the first time, the draft general permit authorizes settlement of drilling fluids and

²⁵⁸ Fact Sheet at 34 (“Department divides drilling fluid characterization into two categories for the Permit: Class C Drilling Fluids used for shallow non-oil and gas activities discharging to marine water, and Class B Drilling Fluids used for deeper oil and gas activities that can have complicated, moderate to high toxicity fluids systems.”).

²⁵⁹ Fact Sheet at 35, Table 4.

²⁶⁰ *Id.* at 36, Table 5.

²⁶¹ See Section II.D.1. For example, HDD includes different techniques and modeling that require individual consideration for mixing zones and includes Class C drilling fluids. Fact Sheet at 66.

²⁶² 18 AAC 70.990(75); see LaLiberte Report.

²⁶³ LaLiberte Report at 15–16.

²⁶⁴ Fact Sheet at 80.

²⁶⁵ LaLiberte Report at 15–18.

²⁶⁶ 18 AAC 70.245(a)(1)–(2).

²⁶⁷ LaLiberte Report at 19–35; Section VI.B.

²⁶⁸ Fact Sheet at 27.

drill cuttings for three discharges — drilling fluids and drill cuttings, excess cement slurry, and fluids, cement, and cuttings at the seafloor.²⁶⁹ Zones of deposit were previously not permitted because DEC indicated that there was little chance for zones of deposit to form.²⁷⁰ Now, DEC proposes the authorization of 100-meter-radius zones of deposit for both fixed and mobile platforms.²⁷¹ The modification to allow for zones of deposit is a change to the permit requiring an antidegradation analysis. It will expressly allow for settlement of drilling fluids and drill cuttings, excess cement slurry, and fluids, cement, and cuttings at the seafloor discharges. This constitutes an expansion of the permit parameters.²⁷² DEC must do a Tier 2 antidegradation analysis for the zones of deposit.

e. Reduced Buffer Zones for State Game Refuges and Critical Habitat Areas

By altering prohibitions in environmentally sensitive areas, DEC expands where discharges are permitted under the draft general permit and must perform a Tier 2 antidegradation analysis.²⁷³ DEC significantly reduces the buffer zones for the Trading Bay State Game Refuge and Redoubt Bay Critical Habitat Area from the 4,000-meter prohibition on discharge to 1,000 meters.²⁷⁴ This modification not only opens up these areas to discharges from existing facilities, but allows for future facilities, including exploration facilities, to discharge in those areas. In addition, DEC exempts Osprey's proposed discharge from the Redoubt Bay Critical Habitat Area buffer zone without further analysis in the draft general permit — it is unclear what type of discharges are allowed.²⁷⁵ In addition, DEC does not list the Goose Bay State Game Refuge, Potter Point State Game Refuge, McNeil River State Game Refuge, and Anchorage Coastal Wilderness Refuge as being subject to the 4,000-meter prohibition. All of these areas were included in the 2007 permit.²⁷⁶ As discussed earlier, it is inappropriate for DEC to backslide by not maintaining the protections for these areas in the general permit. In addition, DEC has failed to conduct an antidegradation analysis for this change, even though it is potentially opening these areas to future discharges. Expanding discharges into state game and wilderness refuges will not only potentially lower water quality in these areas but may have other adverse environmental impacts on fish and wildlife. DEC's reduction in the protections for sensitive environmental areas requires a Tier 2 antidegradation analysis.

²⁶⁹ Draft Permit at 49.

²⁷⁰ Alaska Dep't of Env'tl. Conservation, Response to Comments for Alaska Pollutant Discharge Elimination System (APDES) General Permit AKG 315100 — Mobile Oil and Gas Exploration in State Waters in Cook Inlet, at 26 (Feb. 6, 2015).

²⁷¹ Fact Sheet at 64.

²⁷² 18 AAC 70.990(75).

²⁷³ *Id.* at 70.990(75).

²⁷⁴ Fact Sheet at 19.

²⁷⁵ *Id.*

²⁷⁶ 2007 Fact Sheet at 15.

f. New Facilities

DEC allows for new facilities to be covered under the draft general permit, expanding the scope of potential dischargers and discharges that could be allowed over the lifetime of the permit.²⁷⁷ Removal of the prohibition against new facilities allows for new discharges from additional facilities under the permit. The inclusion of new facilities was not allowed under either the 1999 or 2007 general permits.²⁷⁸ Any new facilities will increase the permitted parameter load and concentrations in the general permit. The draft general permit does not limit the number, scale, or location of additional facilities. DEC asserts that the new source performance standards do no change the limits or implementation of the draft permit.²⁷⁹ This finding is in error. The new source performance standards hold facilities to consistent standards; they do not place limitations on the scale of a facility or the number of facilities covered under a permit.²⁸⁰ Since the general permit does not limit the number or scale of authorized facilities, there is the potential for significant expansion of the permit. Increased discharges could be amplified as well by the reissuance of “shuttered” facilities.²⁸¹ DEC’s finding that the proposed limits of the general permit would not change is in error and does not consider the carrying capacity of the entire waterbody.²⁸² DEC must consider this significant expansion of the permit through a Tier 2 antidegradation analysis.

In addition, new facilities issued under the general permit also increase the pollution load, expanding the draft general permit’s discharges.²⁸³ For example, the Julius R. Gas Production Platform and the Sabre Exploration Project were previously addressed through individual permits. DEC is now proposing to add them to the general permit. The discharges from these facilities contribute to what DEC characterizes as the “slight increase in flows” in the draft general permit.²⁸⁴ The coverage of more facilities under the draft permit also expands the coverage area of the permit. Specifically, the Sabre Exploration Project discharges within 4,000 meters of Trading Bay State Game Refuge.²⁸⁵ Sabre was not covered under the 2015 permit because of its proximity to this environmentally sensitive area.²⁸⁶ A Tier 2 analysis is required for all new facilities covered under the general permit, whether they were previously covered under an individual permit or not.

²⁷⁷ 18 AAC 70.990(75).

²⁷⁸ 2009 Osprey IP at 8.

²⁷⁹ Fact Sheet at 22.

²⁸⁰ 40 C.F.R. § 435.70.

²⁸¹ Fact Sheet at 21, 50–53. The general permit suggests Baker, Bruce, and Dillon may reactivate during the duration of the permit. If these facilities apply for discharge under the general permit, a tier 2 antidegradation analysis is required by 18 AAC 70.016(c)(2)(E) for applicants seeking reauthorization.

²⁸² Fact Sheet at 22.

²⁸³ 18 AAC 70.990(75).

²⁸⁴ Fact Sheet at 115.

²⁸⁵ *Id.* at 14.

²⁸⁶ *Id.*

g. Hydrostatic Test Water

Hydrostatic test water as defined in the draft permit is a new discharge requiring a Tier 2 antidegradation analysis.²⁸⁷ DEC asserts that the discharge is not expanded because the 2007 general permit included hydrostatic test water as an allowable commingled source with produced water.²⁸⁸ DEC errs in concluding that hydrostatic test water is not a new discharge category because it was previously allowed when comingled with produced water discharges. It is unclear from the draft general permit if the total amount of allowable discharge has also expanded, and DEC is still required to conduct an antidegradation analysis.²⁸⁹ The draft general permit modifies the discharge by allowing facilities to independently discharge hydrostatic test water, which will alter and likely increase the discharge concentration. In addition, as discussed above, DEC's definition of hydrostatic test water has expanded since the 2007 general permit to include potable water²⁹⁰ and incidental discharges from required repairs.²⁹¹ Independent discharge of hydrostatic test water comingled with potable water and incidental discharges was not permitted under the 2007 permit. Thus, DEC is authorizing a new and expanded discharge category. DEC is required to conduct a Tier 2 antidegradation analysis.

h. Excavation Dewatering from Contaminated Sites

Discharge of excavation dewatering from contaminated sites is a new discharge under the draft general permit and must be considered through a Tier 2 antidegradation analysis.²⁹² For the first time in the general permit, DEC authorizes the comingling of excavation dewatering from contaminated sites with produced water for all facilities. Previously, this type of comingled discharge was allowed under the 2007 general permit exclusively for the Trading Bay Production Facility to be treated as produced water. Now, the draft general permit expands the scope of the permit to allow excavation dewatering water that is contaminated with hydrocarbons to be treated and disposed with produced water at onshore facilities such as Trading Bay Production Facility, Middle Ground Shoal Onshore, Granite Point Tank Farm, or new facilities.²⁹³ The draft general permit states this discharge is appropriate given the previous allowance for Trading Bay.²⁹⁴

As discussed earlier, these onshore facilities do not fall within the exemption and should not be allowed to discharge into Cook Inlet. However, assuming that onshore facilities could fall within the exemption, DEC cannot allow these discharges unless DEC conducts a Tier 2 antidegradation analysis for this expansion. Otherwise the general permit would contain illegal

²⁸⁷ 18 AAC 70.990(75).

²⁸⁸ Fact Sheet at 116.

²⁸⁹ This number cannot be compared with the 2007 general permit because the wastewater characterization for hydrostatic test discharge is not included in the general permit. As discussed above, this section should be added to the draft permit.

²⁹⁰ See Section II.D.

²⁹¹ Fact Sheet at 109.

²⁹² 18 AAC 70.990(75).

²⁹³ Fact Sheet at 23.

²⁹⁴ *Id.*

backsliding since they were not authorized under the previous permit. DEC acknowledges this is a new permit condition, and this material constitutes a new discharge allowed under the general permit, but failed to do the required Tier 2 antidegradation analysis.

- ii. DEC's interpretation of what constitutes a new and expanded discharge for both Osprey and more broadly is contrary to the antidegradation policy.

DEC's analysis of Osprey and whether it meets the definition of new and expanded is unclear. It is not clear from the face of the permit whether DEC is in fact treating any part of Osprey's discharge as new or expanded for purposes of its antidegradation analysis. The entire produced water discharge from the Osprey platform is a new discharge requiring a Tier 2 antidegradation analysis, and DEC should not limit its analysis to only the "slight increase" in flows under the draft permit.

Currently, Osprey does not discharge produced water into Cook Inlet. Instead, it reinjects produced water from both Osprey and other facilities into four disposal wells.²⁹⁵ Now, Osprey seeks to discharge its wastewater into Cook Inlet. DEC rationalizes that, since produced water from some other facilities was regulated in the 2007 general permit, allowing Osprey to discharge its produced water is not new. This assumption incorrectly assumes that produced water is broadly, not individually, regulated in the general permit. The general permit regulates produced water by determining site-specific mixing zones for each produced water discharges. Adding Osprey to the draft general permit means DEC permits a new, site-specific mixing zone for Osprey's unique discharge. DEC recognizes this discrepancy, and explains that "[a]lthough the Osprey did not have facility-specific concentration limits in the 2007 [general permit], the limited parameters in the Permit are consistent with the 2007 [general permit], which suggests the discharge of produced water is not expanding."²⁹⁶ DEC cannot use the fact that EPA previously allowed some other facilities to discharge produced water on the 2007 permit to avoid having to conduct an antidegradation analysis for Osprey now. This is particularly egregious here, where the mixing zone proposed under the general permit is inconsistent with the 2007 general permit protections for the Redoubt Bay Critical Habitat area.²⁹⁷ The parameters of the 2007 general permit would not have allowed for produced water discharges from Osprey. DEC is now proposing to waive these protections in order to allow for the produced water mixing zone for Osprey. DEC never accounted for either Osprey or similar discharges occurring in the Redoubt Bay Critical Habitat buffer as part of its previous antidegradation analysis. Produced water from Osprey is a new discharge and should be subject to a Tier 2 antidegradation analysis.

In addition, the general permit increases total produced water flows and expands the discharge by authorizing produced water discharge from Osprey. A discharge expands the permit

²⁹⁵ DEC must clarify Osprey's current injection status and well use. *See* Section V.B.iii.a.1.

²⁹⁶ Fact Sheet at 115.

²⁹⁷ *Id.* at 19.

if there is an “increase in permitted parameter load.”²⁹⁸ The draft general permit’s analysis finds that it is “unclear” whether discharge of produced water meets the definition of a new and expanded discharge, that the determination is “complicated,” and that there is only a “slight increase” in the discharge because the Anna facility has stopped discharging.²⁹⁹ Produced water discharge from the Osprey platform is a new discharge and expands the general permit’s total volume of produced water, increasing the permitted parameter load.³⁰⁰ DEC appears to justify shirking its responsibility to analyze the full discharge from Osprey by referring to Anna as an offset. This is inappropriate. DEC has not accounted for discharges in the specific vicinity of Osprey in the current or previous antidegradation analyses, and the Anna platform involved a discharge to a different area with different considerations. DEC cannot trade off wholly different discharges without any sort of analysis of whether there is likely to be degradation from the different discharge in a different area. DEC needs to conduct a Tier 2 antidegradation analysis for Osprey’s full discharge and not just the “slight increase” above what it offset from Anna.

Lastly DEC recognizes that Osprey would normally have to apply as new source to obtain coverage under the draft permit, but waives this requirement.³⁰¹ The draft general permit acknowledges that Cook Inlet Energy seeks to discharge produced water under this permit, but is also simultaneously seeking coverage under an individual permit with an overlapping comment period.³⁰² The Tier 2 analysis is included in the draft general permit and is virtually identical to that under the proposed Osprey individual permit. The purpose of antidegradation analysis is to protect water quality and environmental impacts.³⁰³ DEC’s treatment of produced water and Osprey’s discharge as a new source in one type of permit but not the other raises serious questions about whether DEC has adequately considered the potential environmental impacts in its antidegradation analyses for both permits. DEC’s finding that Osprey does not require a Tier 2 antidegradation analysis for its full discharge is contrary to the antidegradation policy and inconsistent with protection of Cook Inlet.

It is also inappropriate that DEC takes the approach that Osprey is a “unique circumstance” and that it is applying the antidegradation analysis to be transparent, stating that this approach may not be applicable for other general permits or circumstances. DEC’s characterization unlawfully truncates the antidegradation analysis. Even though a general permit may authorize discharges more broadly, DEC still must account for the increased amount of anticipated discharges under that permit. If there are new discharges, DEC needs to analyze those discharges and update its antidegradation analysis. It cannot simply allow for an unlimited number of facilities and discharges to potentially seek coverage under the general permit without an appropriate antidegradation analysis that considers the full scope of discharges and impacts. DEC’s current interpretation of the definition of new and expanded as articulated in the general permit is contrary to the antidegradation policy and the implementation methods.

²⁹⁸ 18 AAC 70.990(75).

²⁹⁹ Fact Sheet at 115.

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² 2019 Osprey Fact Sheet.

³⁰³ 18 AAC 70.015(b).

iii. DEC's Tier 2 antidegradation analysis for Osprey's produced water discharge is deficient.

In addition to the concerns about the scope of what DEC is considering new and expanded, as discussed above, DEC's Tier 2 antidegradation analysis for the Osprey facility is also inadequate.³⁰⁴ DEC is only allowed to authorize a reduction in water quality after the department finds: 1) the reduction in water quality will not violate the water quality standards, limitations on carcinogenic substances, or whole effluent toxicity limits; 2) "the resulting water quality will be adequate to fully protect existing uses of the water;" 3) all wastes and discharges will be treated and controlled to achieve the highest statutory and regulatory requirements; 4) DEC will require cost effective and reasonable methods of pollution prevention, control, and treatment; and 5) authorizing the reduction in water quality is necessary for important economic or social development.³⁰⁵ DEC must also ensure all other protective measures are not reduced.³⁰⁶

Here, DEC's Tier 2 analysis findings are unsupported and fail to protect and maintain water quality. There is no indication Osprey is capable of meeting the ELGs, let alone the water quality standards; DEC cannot authorize a facility to discharge that is not capable of meeting the ELGs. Beyond that, there are also numerous flaws with DEC's consideration of Osprey in its antidegradation analysis. DEC's analysis is based on an incomplete and deficient application, fails to fully consider environmental harms, and improperly weighs alternatives. DEC should not authorize produced water discharges from the Osprey platform.

a. DEC does not consider a range of alternatives and needs to require treatment to comply with both the ELGs and Water Quality Standards.

DEC failed to consider a range of practicable alternatives to the proposed Osprey discharge. Antidegradation implementation methods require the applicant to submit sufficient information in support of the application. This must include the "information and level of detail necessary . . . relative to the size of the project or facility, the characteristics of the proposed discharge, and the characteristics of and potential risk to the receiving water."³⁰⁷ The submission must include: 1) "sufficient information to complete an antidegradation analysis;" 2) necessary baseline water quality provisions; 3) "a description and analysis of a range of practicable alternatives that have the potential to prevent or lessen the degradation associated with the proposed discharge;" 4) a cost evaluation for all practicable alternatives; and 5) identification of all proposed practicable alternatives that prevent or lessen water quality degradation.³⁰⁸ If the selected alternative will degrade the waterbody, the applicant must submit a supplementary "analysis that supports the accommodation of important social or economic development in the area where the receiving water is located."³⁰⁹

³⁰⁴ Fact Sheet at 116.

³⁰⁵ 18 AAC 70.015(a)(2).

³⁰⁶ *Id.*

³⁰⁷ *Id.* at 70.016(c)(4).

³⁰⁸ *Id.* at 70.016(c)(4)(A)–(F).

³⁰⁹ 18 AAC 70.016(c)(4)(G).

Cook Inlet Energy's Antidegradation Analysis Report is based on inadequate information, which makes it insufficient for DEC's review and Tier 2 alternatives analysis. Cook Inlet Energy's antidegradation application presents five alternatives to improve treatment performance: 1) injection; 2) single port diffuser; 3) multi-port diffuser; 4) tertiary treatment consisting of nutshell filtrations; and 5) secondary treatment consisting of induced gas floatation.³¹⁰ These alternatives are not properly considered by DEC in light of regulatory requirements as compulsory information is omitted, the baseline water quality is not established, cost evaluation for all alternatives is missing, and analysis of identified alternatives is lacking. This section considers each of these deficiencies in turn.

1. Cook Inlet Energy's application does not include required information.

Cook Inlet Energy's antidegradation report does not include enough information to appropriately weigh the alternatives. Information necessary to complete an antidegradation analysis includes:

- (1) identification of the receiving water, including the geographic extent potentially affected by the proposed discharge;
- (2) a description of the project purpose;
- (3) the type of facility, activity, and discharge;
- (4) the discharge rate;
- (5) parameters of concern in the discharge and the respective concentrations, persistence, and potential impacts to the receiving water;
- (6) data on parameters that may alter the effects of the discharge to the receiving water;
- (7) which tier should apply for each parameter of concern, if applicable; and
- (8) any additional information as requested by the department.³¹¹

The information DEC relies on to complete the Tier 2 alternatives analysis is insufficient. Osprey's discharge rate and the type of proposed discharge are unclear from the antidegradation report submitted by Cook Inlet Energy.³¹² The August antidegradation report states that only three wells are used and Osprey is injecting at maximum capacity at 7,000 bbl/d.³¹³ On the other hand, the Fact Sheet and Osprey individual permit Fact Sheet both state that Osprey has four underground injection wells injecting at 7,500 bbl/d.³¹⁴ An accurate injection rate must be described. It is important for DEC to clarify this because the draft general permit does not propose a single discharge, but a range from 5,000–25,000 bbl/d based on the mixing zones from

³¹⁰ Fact Sheet at 116; Cook Inlet Energy, Osprey APDES Permitting Antidegradation Analysis Report, Cook Inlet, Alaska (August 2018) [hereinafter August 2018 Antidegradation Report].

³¹¹ 18 AAC 70.016(a)(5).

³¹² *Id.* at 70.016(a)(5)(C), (D).

³¹³ August 2018 Antidegradation Report at 12.

³¹⁴ Fact Sheet at 15; 2019 Osprey Individual Permit Fact Sheet at 9.

other Cook Inlet facilities.³¹⁵ Cook Inlet Energy's report specifically calls out the Bruce platform and Trading Bay.³¹⁶ Neither of these facilities is comparable to the proposed discharge from Osprey, as Bruce is currently shuttered and has not discharged since 2006 and Trading Bay is the largest discharger in Cook Inlet, with a significantly larger mixing zone and a substantially larger discharge quantity.³¹⁷ Cook Inlet Energy provides no analysis for why the range of discharge options were selected. Instead, Cook Inlet Energy assumes Osprey will potentially discharge at higher volume and the flow rates are only used when considering two of the five alternatives.³¹⁸ DEC must consider the discharge rate of all alternatives in order to have sufficient information to critique their merits.

Additionally, the composition of the proposed discharge is ambiguous. DEC appears to be evaluating a produced water discharge that encompasses discharges from both Osprey and onshore facilities. As described above, Osprey may not discharge for any onshore facilities. Onshore facilities are required to meet a zero discharge requirement for produced water and other waste under the onshore ELGs. All the discharge calculations currently appear to include onshore wastes. DEC must clarify this and not allow the discharge of any onshore facility waste into Cook Inlet. This is particularly important because the inclusion of these additional wastes also likely skews DEC's ability to analyze the viability of any alternatives to the discharge and potential treatment methods, including the potential for Osprey to continue reinjecting. DEC needs to correct all of this in a revised permit.

2. DEC does not consider the baseline water quality for the Osprey platform's proposed receiving water.

DEC has not adequately considered the baseline water quality levels at the Osprey platform. Necessary baseline water quality provisions include: 1) sufficient and credible information about the receiving water, including tier protection, assimilative capacity for future development and multiple discharges; and 2) data necessary for department review including project size, discharge characteristics, and receiving water characteristics including special management or habitat designations.³¹⁹ When reviewing necessary baseline water quality, DEC is required to consider:

- (i) the sensitivity of the receiving water to degradation of existing or designated uses;
- (ii) the types of parameters of concern in the proposed discharge;
- (iii) the available dilution or assimilative capacity of the receiving water for the proposed discharge, including the impacts of authorized discharges;

³¹⁵ August 2018 Antidegradation Report at 15–16.

³¹⁶ *Id.* at 15.

³¹⁷ Where Trading Bay's Discharge is just over 80% of the general permit's total discharge and Osprey is just over 10% of the general permit's total discharge. LaLiberte Report at 13, Table 1.

³¹⁸ August 2018 Antidegradation Report at 15–16.

³¹⁹ 18 AAC 70.016(a)(6)(A)–(B).

- (iv) representativeness of any surrogate water information proposed for baseline water quality relative to the receiving water under review, including geographic, hydrologic, geologic, water use, and water quality characteristics;
- (v) the validity of any baseline concentrations assumed to be below detection levels;
- (vi) the quantity, date of analysis, analytical method, detection level, and spatial and temporal scope of any submitted data; and
- (vii) whether the data considers applicable seasonal or natural variability.³²⁰

DEC fails to consider several factors necessary to determine baseline water quality for the proposed Osprey discharge. First, the receiving water's sensitivity is not considered. DEC authorizes discharge from the platform into an area previously covered by a 4,000 meter buffer that prohibited discharges in the Redoubt Bay Critical Habitat Area.³²¹ The buffer was created to protect the special wildlife qualities of this area. DEC removes this buffer without explanation and does not describe the proximity of discharge to the critical habitat area in the Tier 2 analysis. Second, DEC does not consider the assimilative capacity of the receiving water in light of other discharges that are already impacting Cook Inlet.³²² DEC does not present any analysis of the baseline water quality. DEC analyzes a limited range of other point sources and their limits for oil and grease, TAH, pH, and copper, but only after it has found that it is appropriate to lower water quality for Osprey.³²³ The closest and most prolific discharge, Trading Bay, is not even considered. DEC should not limit the analysis to each facility. The pollution load of the entire receiving water is at issue. In order for DEC to assess the baseline water quality, ammonia must also be considered as a driving parameter. Instead, DEC dismisses ammonia as a driving parameter without analysis, presenting an incomplete picture of the receiving water.³²⁴

Cook Inlet Energy's data also raises significant questions. The quantity, quality, and methods used to obtain the data are suspect.³²⁵ Data submitted from Cook Inlet Energy's mixing zone application ignores tidal and stratified conditions, and does not therefore accurately characterize the receiving water.³²⁶ Even though Cook Inlet is an estuary, DEC models the area in the vicinity of Osprey "as a river with non-varying flow and no stratification."³²⁷ In addition, the analysis is deficient because the ambient velocities do not take into consideration slack tide conditions, surface water elevations, temperatures, and salinity.³²⁸ Osprey's reported salinity data for the receiving waterbody is questionable, as it does not contain the times logged and accurate

³²⁰ 18 AAC 70.016(a)(6)(C)(i)-(vii).

³²¹ *Id.* at 70.016(a)(6)(C)(i).

³²² *Id.* at 70.016(a)(6)(C)(iii).

³²³ Fact Sheet at 121.

³²⁴ *Id.* at 55 ("[A]mmonia was not evaluated, DEC believes ammonia will be present in the effluent to the degree that dilution would be required to meet water quality criteria but not the degree of triggering reasonable potential.").

³²⁵ 18 AAC 70.016(a)(6)(C)(vi).

³²⁶ LaLiberte Report at 28–29.

³²⁷ *Id.* at 28.

³²⁸ LaLiberte Report at 27, Table 4.

recording depths, including information recorded at previous depths.³²⁹ DEC must also account for seasonal variability.³³⁰ Relevant seasonal conditions are not considered by Cook Inlet Energy or by DEC's mixing zone analysis.³³¹ In sum, DEC does not have the necessary baseline water quality data to make a Tier 2 antidegradation assessment.

3. Cost evaluation for all alternatives is missing.

In order to make an informed assessment, DEC must consider costs associated with all reasonable alternatives.³³² Costs are not presented for nutshell filtration, even though this alternative is an established treatment technology and many choices are available for systems.³³³ DEC needs to obtain and consider all costs in the report. The minimal information provided in the report from Hilcorp appears to be too bare-bones for DEC to engage in a meaningful analysis of the alternatives and is slanted toward Osprey's preferences, as opposed to the options that will be more protective of water quality. Because of how deficient this information is, there is no indication that DEC has meaningfully analyzed what treatment technologies are likely to be the most effective and practicable, as required by the regulations.

4. DEC does not properly weigh the proposed alternatives.

a) *Injection*

DEC's dismissal of injection as an alternative is deeply problematic and contrary to the ELGs, the antibacksliding requirements, and the water quality standards. DEC finds that injection would be "technically infeasible as well as cost prohibitive and make [Cook Inlet Energy] competitively disadvantaged with other Cook Inlet producers."³³⁴ DEC fails to provide any basis for its assertion that injection is "infeasible."³³⁵ The draft permit states that the current injection by Cook Inlet Energy at the Osprey formation represents maximum capacity and the formation is becoming over-pressurized.³³⁶ Osprey supposedly injects at maximum capacity.³³⁷

³²⁹ *Id.* at 28–29.

³³⁰ 18 AAC 70.016(a)(6)(C)(vii).

³³¹ LaLiberte Report at 28–29.

³³² 18 AAC 70.016(c)(4)(E).

³³³ Email from Jennifer Henderson, Glacier Oil, to Gerry Brown, Manager, Wastewater Discharge Authorization Program, Alaska Dep't of Env'tl. Conservation (Oct. 1, 2018, 13:51 AKST) (DEC requests the costs of Nutshell filtration and other treatment technologies after review of the August Antidegradation report. Cook Inlet Energy still fails to provide any costs assessment for nutshell filtration.); August 2018 Antidegradation Report at 21 (identified systems available are: Schlumberger Petreco Hydromation™ nutshell filter, Siemens Monsep™ High-flow Walnut Shell Filtration System, Siemens Auto-Shell™ nutshell filter, and the Veolia PowerClean® nutshell filter.); Fact Sheet at 117.

³³⁴ Fact Sheet at 116–117.

³³⁵ *Id.* at 116.

³³⁶ Fact Sheet at 15.

³³⁷ *Id.*

Yet, Osprey is reinjecting not only for its four wells, but an additional four located in the West McArthur and Redoubt Units.³³⁸ DEC at no point considers whether it is technically viable for Osprey to continue reinjecting its own wastes alone, as opposed to a combined blend of wastes from a number of onshore facilities that are required to continue meeting a zero discharge requirement.

DEC's position at the public hearings on the permit appeared to be that they did not believe they could impose a zero discharge requirement on Cook Inlet facilities. This is incorrect. As a threshold matter, Osprey appears to be reinjecting for onshore facilities that are required to meet a zero discharge requirement; DEC cannot permit onshore facilities to discharge into Cook Inlet under the ELGs and must maintain that zero discharge requirement. However, even assuming the discharge was an offshore discharge and subject to the ELG exemption for offshore facilities, DEC still has the authority and obligation under the antidegradation provisions to ensure there is no degradation of Cook Inlet. That authority in turn provides DEC with the ability to require Cook Inlet facilities to meet more stringent standards than might be required under the ELGs, including via methods such as reinjection.

Cook Inlet Energy also acknowledges that the product from wells in the West McArthur and Redoubt Units is over 90% "produced water, which makes injection impractical."³³⁹ DEC should not base its analysis of whether it is affordable to inject on a distorted ratio that substantially differs from other facilities. In addition, DEC mentions that injection into deeper oil formations is possible, but "will negate enhanced oil recovery."³⁴⁰ DEC does not consider deeper injections into the oil producing formations in the Tier 2 antidegradation analysis. DEC should consider the alternative of deeper injections when considering cost recovery and feasibility, instead of jumping to the conclusion that it should allow this massive new discharge in Cook Inlet.

DEC also assumes without any basis that similar subsurface conditions exist at the Kustatan Production Facility as the nearby Trading Bay Production Facility and potentially elsewhere in Cook Inlet.³⁴¹ And yet onshore facilities all around Cook Inlet are currently required to inject and meet a zero discharge requirement. DEC should not make assumptions without any basis and needs to fully assess the viability of this alternative.

b) *Multiport Diffusers*

DEC should reconsider the option of requiring a multiport diffuser. In Cook Inlet Energy's initial antidegradation application, the applicant expressed a preference for the

³³⁸ *Id.* Note, this discharge is improper for produced water discharge as it includes wastes from onshore facilities. Onshore facilities may not discharge produced water. *See* V.A.2.

³³⁹ Cook Inlet Energy, Osprey APDES Permitting Antidegradation Analysis Report, Cook Inlet, Alaska at 12 (May 2018) [hereinafter May 2018 Antidegradation Report].

³⁴⁰ Fact Sheet at 16.

³⁴¹ *Id.* at 117.

multiport diffuser, which would reduce the mixing zone up to 75.6%.³⁴² Now, DEC selects induced gas flotation, a secondary treatment option, without explaining the change in position. Induced gas flotation was not proposed or analyzed as an alternative in the initial permit application.³⁴³ DEC must explain this change in position and should fully analyze the multiport diffuser option.

c) *Nutshell Filtration*

DEC should reconsider nutshell filters as a tertiary treatment method to reduce degradation of Cook Inlet. Cook Inlet Energy was required to submit a cost evaluation of all practicable alternatives, and DEC needs that information to conduct its Tier 2 antidegradation analysis.³⁴⁴ Unlike all other alternatives considered, DEC does not weigh the costs of nutshell filtration, finding that more expensive methods are unnecessary because the less expensive induced gas floatation alternative meets the regulatory requirements.³⁴⁵ DEC is already backsliding in the permit, contrary to law, and is now proposing to adopt a less rigorous treatment method. DEC should evaluate and consider adopting a more effective treatment method, such as nutshell filtration, to protect against degradation in Cook Inlet. This is particularly true where the addition of Osprey means that one facility accounts for approximately 10% of the discharge under the permit to Cook Inlet. This would lead to a substantial increase in pollutant discharges to Cook Inlet, and DEC needs to impose the best practicable technology to ensure water quality is protected. This is also troubling here where there is no indication Osprey will actually be able to meet the ELGs, and yet DEC is not adopting more rigorous treatment technologies to address that significant problem. DEC's analysis falls short as it is not detailed enough to determine if nutshell filters would reduce oil and grease to a level in compliance with the ELGs. If compliance is possible, DEC must require those treatment standards. DEC cannot impose the bare minimum in treatment technologies. DEC is required, at a minimum, to impose the ELGs and should require more stringent technologies beyond that to protect water quality. It has failed to do so here.

DEC's analysis also does not account for the fact that the department is proposing to waive the 4,000-meter prohibition on discharge in the Redoubt Bay Critical Habitat Area for Osprey. The department should seek to provide the most protective measures technologically feasible when authorizing a discharge that fails to meet the ELGs within a critical habitat buffer zone. DEC should reconsider nutshell filtration's "superior environmental benefits" in light of the proposed discharge into a critical habitat area.³⁴⁶

³⁴² May 2018 Antidegradation Report at 15 (25,000 bbl/day).

³⁴³ *Id.*

³⁴⁴ 18 AAC 70.016(c)(4)(E).

³⁴⁵ Fact Sheet at 117.

³⁴⁶ *Id.*

d) *Induced Gas Flotation*

At a minimum, DEC should require Cook Inlet Energy meet the same requirements for induced gas flotation units as proposed in the draft individual permit. As discussed above, DEC's simultaneous comment period for Osprey for both a general and individual permit is confusing and provides conflicting information to the public. The permits have different requirements related to induced gas flotation. DEC's individual permit requires four panels of induced gas flotation units, whereas the general permit only requires installation of "up to" four parallel units.³⁴⁷ This difference means that the individual permit, according to DEC, "ensures an optimally-sized mixing zone around which the water quality criteria effectively will be met in the receiving water."³⁴⁸ Alternately, the general permit finds the "discharge meets water quality criteria effectively in the receiving water," but omits any findings pertaining to the optimal mixing zone size.³⁴⁹ The general permit should require at least four panels of induced gas flotation to ensure optimal mixing zone sizing and meet regulatory requirements.

DEC should also require treatment to a level that meets the ELGs. Cook Inlet Energy's antidegradation report is missing significant information required for analysis and does not support the conclusion that Osprey will meet the minimum treatment standards in the ELGs under either the general or individual permit. The proposed alternative DEC selects is induced gas flotation. However, even if Cook Inlet Energy installs the proposed alternative's four parallel induced gas flotation units, water quality would still be lowered and there is still no indication Osprey will meet the requirements in the ELGs. DEC needs to consider and adopt an alternative that brings Osprey into compliance with the ELGs.

b. *Social or economic development benefits do not outweigh environmental harms from Osprey's produced water discharge.*

DEC's antidegradation analysis overstates the economic benefits of allowing Osprey to discharge and fails to adequately weigh that against the environmental harm. In order to apply for an accommodation that lowers water quality standards, an applicant must demonstrate important social or economic development in the area of the receiving water.³⁵⁰ Social benefits must be in the "affected community in the area where the receiving water for the proposed discharge is located" and demonstrate social development in, at minimum, at least one area of community services, public health or safety improvements, infrastructure improvements, education and training, cultural amenities, recreational opportunities, or economic importance.³⁵¹ If economic importance is shown, development in the following areas can be considered: employment, job availability, salary impacts, tax base impacts, expanded leases and royalties, commercial activities, access to resources, and access to a transportation network.³⁵²

³⁴⁷ 2019 Osprey Individual Permit Fact Sheet at 37; Fact Sheet at 117.

³⁴⁸ 2019 Osprey Individual Permit Fact Sheet at 37.

³⁴⁹ Fact Sheet at 117.

³⁵⁰ 18 AAC 70.016(c)(5); 18 AAC 70.015(a)(2)(A).

³⁵¹ *Id.* at 70.016(c)(5)(A)(i)-(vi), 70.016(c)(5)(B).

³⁵² *Id.* at 70.016(c)(5)(B)(i)-(vi).

DEC's analysis of the economic benefits from Osprey is flawed. According to DEC, the general permit allows facilities to discharge produced water to stimulate job growth and the oil and gas industry statewide.³⁵³ Cook Inlet Energy projects employment increases for six full-time positions, fifty exploration drilling seasonal positions, and sixty-seven other seasonal positions.³⁵⁴ The general permit must provide more information about these assertions, such as clarifying the duration and salaries it expects from these employees. The increases in employment rely on several questionable assumptions. First, the employment increases assume Cook Inlet Energy will take the additional profits and reinvest in further exploration projects in the area. Second, economic benefits are required to be in the affected community. DEC does not specify who the positions will benefit. For example, DEC does mention Kenai Peninsula Borough supports 810 employees, but does not specify if Cook Inlet Energy's forty employees are located in the borough.³⁵⁵ DEC's analysis considers statewide impacts and wages from the oil and gas sector and does not meet the requirement for positions to increase in the affected community.³⁵⁶ Third, the seasonal positions do not explain if they will last a single year, or have a multiple year duration.³⁵⁷ Fourth, DEC assumes that oil and gas markets will remain economically viable for increased production for the next 10–15 years.³⁵⁸ Due to increasing climate change concerns and pressure on the oil and gas industry, these assumptions are more tenuous than DEC asserts.³⁵⁹ While DEC may consider economic importance, and specifically employment and job availability, these increases are likely inflated and do not counter the significant and serious environmental impacts from discharge of non-compliant produced water into the Redoubt Bay Critical Habitat Area.

DEC also fails to take into account other economic considerations that will be harmed by the proposed discharge and lowering of water quality. Cook Inlet is vitally important for commercial fishing, subsistence, and recreational use. Allowing Osprey to discharge additional pollutants to Cook Inlet, when there are already serious concerns about the water quality in Cook Inlet based on existing discharges, will harm these interests. There are significant costs associated with reducing water quality that DEC has not adequately assessed in the antidegradation analysis. DEC should not find that social and economic benefits outweigh the costs in the vicinity of the discharge.

³⁵³ Fact Sheet at 118.

³⁵⁴ *Id.*

³⁵⁵ *Id.* DEC states that Cook Inlet Energy is one of the top ten taxpayers in the Kenai Peninsula Borough. Where business taxes are paid does not necessarily reflect the location of a company's employees.

³⁵⁶ 18 AAC 70.016(c)(5)(B)(i).

³⁵⁷ Fact Sheet at 119.

³⁵⁸ *Id.*; August 2018 CIE Antidegradation Application at 9.

³⁵⁹ See e.g., Julien Mivielle, *Oil Industry Under Pressure to Respond to Climate Change*, PHYS.ORG (Apr. 28, 2019), available at <https://phys.org/news/2019-04-oil-industry-pressure-climate.html> (last accessed May 10, 2019).

c. DEC's analysis of the Water Quality Criteria is insufficient to establish there will not be any violations.

DEC fails to show that water quality will be maintained if DEC allows Osprey to discharge into Cook Inlet. DEC must establish: 1) the reduction in water quality will not violate the water quality standards, limitations on carcinogenic substances, or whole effluent toxicity limits; 2) "the resulting water quality will be adequate to fully protect existing uses of the water;" 3) and all wastes and discharges will be treated and controlled to achieve the highest statutory and regulatory requirements.³⁶⁰

DEC's analysis is not specific enough to establish other water quality standards will not be reduced.³⁶¹ DEC relies on the deeply flawed Osprey mixing zone analysis to substantiate that all criteria will be met. Cook Inlet Energy also does not present a complete range of alternatives with all required data, which renders this analysis inadequate. As discussed above, Osprey's mixing zone is as large as practicable and is not guaranteed to meet pollution parameters, including the minimum requirements in the ELGs. The general permit also does not establish that the reduction in water quality will comply with water quality standards, limitations on carcinogenic substances, or whole effluent toxicity limits.

The regulations for the Tier 2 antidegradation analysis require that DEC meet all other applicable water quality criteria and that the requirements for a discharge to a Tier 1 water are met.³⁶² As discussed above, DEC's Tier 1 antidegradation analysis merely points to the previous analysis and is deficient.³⁶³ DEC's provides no analysis showing that it will be capable of meeting this standard.

There is also no indication Osprey will meet the highest standards for its other wastes.³⁶⁴ The antidegradation analysis does not analyze the alternatives for controlling other wastes, and instead requires Cook Inlet Energy to submit future plans.³⁶⁵ This analysis must be undertaken at this stage. DEC should not permit Osprey to discharge without plans and an analysis showing that it is able to meet treatment requirements at this time. DEC's analysis does not ensure that statutory and regulatory standards will be met or can support a reduction in water quality.

Lastly, DEC must consider all other discharges in the waterbody that may affect water quality.³⁶⁶ DEC only considers other sources outside the draft general permit.³⁶⁷ DEC must also consider all discharges that impact Cook Inlet, including the nearby Trading Bay Production

³⁶⁰ 18 AAC 70.015(a)(2).

³⁶¹ *Id.* at 70.015(a)(2)(B).

³⁶² *Id.* at 70.016(c)(7); 18 AAC 70.015(a)(2)(C).

³⁶³ Fact Sheet at 120.

³⁶⁴ 18 AAC 70.015(a)(2)(D)(i).

³⁶⁵ Fact Sheet at 120.

³⁶⁶ 18 AAC 70.016(c)(7)(C); 18 AAC 70.015(a)(2)(D)(ii).

³⁶⁷ Fact Sheet at 121.

Facility. DEC's cursory analysis of water quality criteria is not sufficient to show that it meets applicable criteria.

VII. ADDITIONAL CONCERNS RELATED TO OSPREY

The Osprey facility is inappropriate for inclusion in the general permit. Since production on the platform began in 2002, Osprey has complied with a zero discharge requirement in the Redoubt Bay Critical Habitat Area.³⁶⁸ Now, DEC is seeking to authorize Osprey to discharge produced water in both the draft general permit and a draft individual permit.³⁶⁹ DEC also reduces protections for the Redoubt Bay Critical Habitat area to allow Osprey to discharge produced water, decreasing the protective buffer for this area from 4,000 meters to 1,000 meters. DEC claims it should allow this backsliding on the basis that injection is not feasible when balanced against profit. DEC declares the formation is becoming over-pressurized from Osprey's wastes, and that discharge of produced water is "necessary in order to continue or expand oil production, which has economic and social benefits in the vicinity of the discharge."³⁷⁰

There are numerous problems with DEC's treatment of Osprey in the permit. First, it is inappropriate for DEC to permit Osprey under a general permit or an individual permit when there is no indication that Osprey will be capable of meeting the ELGs. The ELGs outline the absolute minimum technology standards facilities must comply with in order to discharge. DEC cannot permit a facility that it acknowledges is incapable of meeting that baseline requirement.

DEC's consideration of Osprey's discharges in the permit is deeply flawed. It appears from the draft permit that Osprey is seeking to discharge produced water from onshore facilities, which is prohibited under the ELGs; onshore facilities are required to meet a zero discharge standard. DEC fails to address the fact that Osprey injects for not only the Osprey platform, but also the West MacArthur River Unit and the Redoubt Unit onshore wells.³⁷¹ Now, because Osprey has also injected onshore wastes in combination with the wastes related to Osprey itself, Cook Inlet Energy is stating the platform can no longer inject and be profitable.³⁷² DEC does not account for how other wastes attributed to the over-pressurization of the formation or the profits of the onshore facilities factor into this injection ratio. It appears from what little information DEC has provided that DEC is just assuming that Osprey is not capable of modifying the overall quantities to exclude the onshore waste or its practices overall to continue meeting a zero discharge requirement in Cook Inlet. Additionally, DEC does not explain how Cook Inlet Energy will deal with the future wastes from West MacArthur River Unit and the Redoubt Unit onshore wells. Onshore facilities are not covered under the Cook Inlet exemption and are required to

³⁶⁸ Fact Sheet at 15.

³⁶⁹ *Id.*

³⁷⁰ *Id.* at 16.

³⁷¹ *Id.* at 15.

³⁷² The "[i]deal injection ratio[] is 1:1 for water injected to oil recovered. The discharge or produced water has become necessary in order to continue or expand oil production." Fact Sheet at 16. The West MacArthur facilities' product is 90% produced water and distorts the profitability of injection. *See* Section VI.B.iii.a.4.a.

meet a zero discharge requirement.³⁷³ DEC appears to be proposing to allow these onshore facilities to discharge into Cook Inlet. If this is not what is occurring, DEC needs to clarify that in the permit and substantiate that in the mixing zone analysis. DEC should not allow Osprey to now discharge near critical habitat because Cook Inlet Energy over-pressurized the shallow formation from wastes that not only include Osprey but other onshore facilities. This permit expansion does not acknowledge Osprey's substantial compliance violations.³⁷⁴ DEC has not provided sufficient information to show Osprey is not capable of continuing to meet its existing zero discharge requirement.

DEC vastly expands the discharges allowed under the proposed general permit with the inclusion of the Osprey facility. Osprey's discharge would make up approximately 10% of the discharges proposed under the permit. This is a substantial increase and raises significant concerns about additional degradation in Cook Inlet. As discussed in more detail earlier in these comments, DEC has not adequately addressed or documented a valid basis for allowing Osprey to backslide. DEC provides no reasoned explanation for its decision to alter the 4,000 meter prohibition against discharges near Redoubt Bay Critical Habitat Area. The alteration of the buffer zone not only changes Osprey's activities, but additionally allows for the expansion of other discharges in the future, such as exploration activities, HDD, and other geotechnical drilling.³⁷⁵ As discussed above, this is illegal backsliding for which DEC has wholly failed to provide any analysis or rationale.³⁷⁶ DEC should not reduce protections for these particularly sensitive areas. The Redoubt Bay Critical Habitat Area is comprised of "a 268 square mile low lying expanse of wetlands braided with riparian habitat."³⁷⁷ The area is known as Tule white-fronted goose nesting area boasting the largest concentration of the bird in the world.³⁷⁸ In addition, the Redoubt Bay Critical Habitat Area supports hundreds of thousands of waterfowl during nesting, migratory resting, and feeding.³⁷⁹ The area also supports Dolly Varden and spawning grounds for all five species of salmon.³⁸⁰ Harbor seals and endangered beluga whales also visit the area to feed. Harbor seals found in the Redoubt Bay area have a high pup ratio in June.³⁸¹

³⁷³ 40 C.F.R. Pt. 435, Subpt. D, App. 1.

³⁷⁴ See Section XI.D.

³⁷⁵ Fact Sheet at 19, 125–126.

³⁷⁶ Section V.A.6.

³⁷⁷ ADF&G, Redoubt Bay — Critical Habitat Area

<https://www.adfg.alaska.gov/index.cfm?adfg=redoubtbay.species> (last visited May 21, 2019).

³⁷⁸ *Id.*

³⁷⁹ *Id.* (including sandhill cranes, cackling Canada geese, Taverner's Canada geese, lesser Canada geese, snow geese, tundra and trumpeter swans, bald eagles, ravens, gulls, passerines, shorebirds (yellowlegs, snipe, godwits, whimbrels, several species of sandpipers, plovers, dunlin, and phalaropes) and ducks (pintail, mallard, green-winged teal, wigeon, shoveler, scaup, canvasback, and common eider)).

³⁸⁰ *Id.*

³⁸¹ Boveng, Peter L. *et al.*, Distribution and Abundance of Harbor Seals in Cook Inlet, Alaska. Task I: Aerial Surveys of Seals Ashore, 2003–2007, BOEM Report 2011-063 (2011) <https://www.boem.gov/ESPIS/5/5211.pdf>.

The area also serves as Cook Inlet Beluga Type 2 high value critical habitat. The draft permit refers to the Cook Inlet Areawide 2017W Plan for management and mitigation measures for belugas.³⁸² The director of the Alaska Division of Oil and Gas must assess activities in Type 2 habitat on a case-by-case basis.³⁸³ No such assessment was performed. DEC fails to provide any analysis for how Osprey's mixing zones will protect for any wildlife values, including Beluga Type 2 high value habitat.

Even if DEC were to ultimately allow Osprey to discharge, DEC has still failed to impose the correct standards. As a facility built after the adoption of the 1996 ELGs, Osprey is subject to the New Source Performance Standards (NSPS). Despite this, DEC fails to apply the NSPS standards to Osprey in the draft permit.³⁸⁴ The NSPS provide maximum limits for new sources and discharges applying for Cook Inlet for oil and grease, water based drilling fluids, and sanitary and domestic waste.³⁸⁵ At issue here, NSPS require daily limits and thirty day average maximum pollutant perimeters for oil and grease discharge limits.³⁸⁶ DEC acknowledges that "Osprey cannot currently meet the ELG's" and that, "[i]n order to meet the oil and grease limits, the Osprey will need increased treatment of the produced water prior to discharge."³⁸⁷ DEC stops here, and there is no further analysis of how the ELGs will be met after increased treatment. DEC should not authorize Osprey to discharge when Osprey is not capable of meeting the NSPS. DEC's current analysis exempts Osprey from meeting NSPS requirements, contrary to law. DEC must detail how Cook Inlet Energy plans to meet requirements for oil and grease discharges and cannot just permit this without explanation or further clarification on how Osprey will meet the applicable standards.

There are also substantial concerns about the manner in which DEC is proceeding with trying to authorize Osprey's discharges under both the general permit and an individual permit at the same time. The draft permit states that the extension of the existing Osprey permit was until DEC could either reissue the individual permit or authorize the platform under the general permit.³⁸⁸ Cook Inlet Energy now seeks coverage under the general permit, but at the same time DEC is also moving forward with the public review process and development of an individual permit.³⁸⁹ This creates substantial confusion for the public about how DEC ultimately intends to handle this discharge, particularly since there are at least some terms that appear to differ in each of the permits. As discussed above, Osprey is not properly permitted under the general permit and its discharges should be considered through an individual permit. DEC should revise the general permit to remove Osprey.

³⁸² Draft Permit at 13.

³⁸³ Cook Inlet Areawide 2017W Plan at A.2.q.

³⁸⁴ 40 C.F.R. § 435.45.

³⁸⁵ *Id.*

³⁸⁶ 40 C.F.R. § 435.45 (maximum daily 42 mg/l and thirty day average shall not exceed 29/l).

³⁸⁷ Fact Sheet at 55.

³⁸⁸ *Id.* at 15.

³⁸⁹ *Id.* at 15.

DEC's inclusion of Osprey in the general permit also appears to be closely related to DEC's decision to backslide by removing the existing prohibition on new facilities trying to seek coverage under the general permit. The 2007 permit did not allow for new facilities to seek coverage under the general permit.³⁹⁰ DEC should maintain the prohibition on new facilities seeking coverage under the general permit, since those facilities have unique technology and other aspects that should be fully taken into consideration on a permit-by-permit basis to ensure there is no degradation of Cook Inlet. Those facilities, as well as Osprey, are not appropriately authorized under this general permit, which primarily relates to longstanding oil and gas facilities in Cook Inlet.

VIII. DEC MUST UPDATE DATA AND IDENTIFY SPECIFIC MITIGATION MEASURES TO MINIMIZE IMPACTS TO ENDANGERED AND THREATENED SPECIES.

DEC's consideration of threatened and endangered species is inadequate. The general permit's cursory analysis of endangered and threatened species does not accurately identify potentially affected species, rely on current data, or set baseline requirements to mitigate impacts.

A. Endangered and Threatened Species Generally

DEC's consideration of threatened and endangered species in the draft general permit is incomplete. DEC does not capture the full range of potentially impacted threatened or endangered species, or account for the full range of marine mammals that could also be impacted by the discharges authorized in this permit. DEC only identified the beluga whale, Steller sea lion, northern sea otter, and Steller's eider as the endangered or threatened species with critical habitat in Cook Inlet.³⁹¹ The proposed individual permit for the Osprey platform additionally identifies the platform area, which is in the current buffer zone for Redoubt Bay Critical Habitat Area, as critical habitat for the endangered short-tailed Albatross.³⁹² DEC acknowledged this fact in the Osprey individual permit, based on its consultation with Fish & Wildlife Service (FWS) and National Oceanic and Atmospheric Administration (NOAA) in June 2018, but fails to recognize this in the draft general permit.³⁹³ DEC should undertake consultation with FWS and NOAA for all the discharges under consideration in the draft general permit, since significant time has passed since the issuance of the previous permit. There may be other endangered or threatened species or marine mammals that are not addressed in the permit.

DEC must update the Ocean Discharge Criteria Evaluation (ODCE) and perform other studies to accurately represent possible adverse effects on threatened and endangered species.³⁹⁴

³⁹⁰ Fact Sheet at 21; *see also* Section II.C.1. Prohibition against new facilities should be maintained.

³⁹¹ Fact Sheet at 128.

³⁹² 2019 Osprey Individual Permit Fact Sheet at 45.

³⁹³ *Id.*

³⁹⁴ *See* Section X for the requirement that DEC complete an ODCE for the general permit.

DEC failed to do an ODCE for this iteration of the permit and instead relies exclusively on the 2013 ODCE to substantiate that discharges “are not likely to adversely affect threatened or endangered species.”³⁹⁵ Yet, the 2013 ODCE only applies to exploration facilities, and therefore does not look at the full range of other potential discharges that could be allowed under the permit that could impact threatened and endangered species. In addition, the 2013 Exploration Permit ODCE identifies additional threatened and endangered species not recognized in the draft general permit including the blue whale fin whale, humpback whale, north pacific right whale, sei whale, sperm whale, the Snake River spring, summer, and fall chinook salmon and the Snake River sockeye salmon.³⁹⁶ Further, the 2013 ODCE failed to provide sufficient information about the risk of bioaccumulation. In the few instances where EPA actually discussed the risks of bioaccumulation, EPA noted that little is known about the risk of toxicity or bioaccumulation of contaminants and pollutants.³⁹⁷ It is particularly disturbing as the 2013 ODCE did not include the discussion regarding metal bioaccumulation potential that was originally included in the 2006 ODCE.³⁹⁸ DEC should update information on risks to threatened and endangered species in the general permit and required ODCE.

The draft general permit only analyzes the potential for bioaccumulation for the three acknowledged endangered marine mammals in the human health section of the mixing zones discussion.³⁹⁹ This analysis is outdated and should be in the endangered and threatened species section. With the exception of Cook Inlet beluga whales, the most recent study is from the 2013 recovery plan for the sea otter.⁴⁰⁰ DEC must update its studies, as discharges into Cook Inlet are ongoing and Alaska’s climate is changing more rapidly than ever.⁴⁰¹ Climate change is forcing species to move and alter behaviors and has increased sensitivity to changes in their surrounding environments. With the exception of Cook Inlet beluga whales, the draft general permit’s designated critical habitat descriptions are over ten years old.⁴⁰² The draft general permit fails to provide enough information and instead relies on old information to permit facilities. This is

³⁹⁵ Fact Sheet at 85.

³⁹⁶ U.S. Env’t Prot. Agency, Final Ocean Discharge Criteria Evaluation for the Cook Inlet Exploration NPDES General Permit at 66–86 (2015).

³⁹⁷ See, e.g., 2013 ODCE at 72 (“The risk of toxicity and bioaccumulation [in sei whales] of contaminants and pollutants (e.g. PCBs, PAHs, DDT, DDE, dieldrin, mercury, other metals) is unknown, but it appears that concentrations of organochlorine and metal compounds are lower in baleen whale tissues than other kinds of marine mammals.”); *id.* at 74 (“Other risks to sperm whales with low or unknown impacts include toxicity and bioaccumulation of contaminants and pollutants (e.g., PCBs, PAHs, DDT, DDE, dieldrin, mercury, other metals) . . .”).

³⁹⁸ U.S. Env’t Prot. Agency, Ocean Discharge Criteria Evaluation for the Cook Inlet NPDES Permit at 53–54 (Jan. 24, 2006).

³⁹⁹ Fact Sheet at 83.

⁴⁰⁰ *Id.*

⁴⁰¹ See e.g. Ian Livingston, *In Alaska, Climate Change is Showing Increasing Signs of Disrupting Everyday Life*, WASH. POST (May 8, 2019) https://www.washingtonpost.com/weather/2019/05/08/alaska-climate-change-is-showing-increasing-signs-disrupting-everyday-life/?utm_term=.ef0c7a1eec55.

⁴⁰² Fact Sheet at 128.

contrary to the Endangered Species Act (ESA) and provides no indication that DEC is being protective of threatened and endangered species in the area of the discharges. This is especially egregious considering the draft general permit has removed the prohibition on new facilities, so the outdated and inadequate information will potentially be used as a basis for permitting new facilities for years to come. DEC must update studies to understand the current risks of bioaccumulation in Cook Inlet species.

B. Cook Inlet Beluga Whale

The Cook Inlet beluga whale is a distinct stock of endangered beluga whale that is essential to Alaska Native peoples and that has tremendous importance to the regional ecosystem.⁴⁰³ In 2008, Cook Inlet beluga whales were listed in part based on the ongoing habitat threat from oil and gas development.⁴⁰⁴ NOAA states that existing studies are not comprehensive of all possible contaminants that Cook Inlet belugas are exposed to.⁴⁰⁵ The National Marine Fisheries Service has been unable to determine why the beluga is not recovering.⁴⁰⁶ The Cook Inlet beluga whale population's most recent stock assessment estimated a population of 340.⁴⁰⁷ According to the most recent stock assessment, the rate of decline (1999–2014) is 1.3% per year (with a 97% probability that the growth rate is declining), while the 10-year trend (2004–2014) is -0.4% per year (with a 76% probability of declining).⁴⁰⁸ There are no signs of population growth since 2008 when the stock was listed under the ESA as endangered.⁴⁰⁹ Further, there have been

⁴⁰³ 2016 Recovery Plan for the Cook Inlet Beluga Whale at I-1.

⁴⁰⁴ 73 FR 62919, 62927 (“Concern is warranted about the continued development within and along upper Cook Inlet and the cumulative effects on important beluga whale habitat. Ongoing activities that may impact this habitat include: (1) continued oil and gas exploration, development, and production; and (2) industrial activities that discharge or accidentally spill pollutants (e.g., petroleum[]). Destruction and modification of habitat may result in ‘effective mortalities’ by reducing carrying capacity or fitness of individual whales, with the same consequence to the population survival as direct mortalities. Therefore, threatened destruction and modification of CI beluga whale habitat contributes to its endangered status.”).

⁴⁰⁵ Recovery Plan at III-24.

⁴⁰⁶ See 2017 Beluga Whale (*Delphinapterus leucas*): Cook Inlet Stock, Revised Dec. 30, 2017, <https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-species-stock#cetaceans---large-whales> (This is the most recent stock assessment); see also, Amorina Kingdon, *The Baffling Case of the Belugas that Won't Bounce Back*, HAKAI MAGAZINE (May 21, 2019) (last accessed May 22, 2019) available at https://www.hakaimagazine.com/features/the-baffling-case-of-the-belugas-that-wont-bounce-back/?fbclid=IwAR0rEc9vJSulhOQLOJMOaSCHZuG3_EloT8Rofesld5Nf-cgszzIZEAwQ-JE (In terms of toxic compounds, “scientists have only studied the toxicity of large doses, not the impacts of low-grade chronic exposure.” Oil spills and noises pollution are also threats but exact causes of species decline are unknown.).

⁴⁰⁷ 2017 Beluga Whale (*Delphinapterus leucas*): Cook Inlet Stock.

⁴⁰⁸ *Id.*

⁴⁰⁹ See Final Determination to List a Distinct Population Segment of the Beluga Whale, *Delphinapterus Leucas*, as Endangered, 73 Fed. Reg. 62,919 (Oct. 22, 2008).

no indications that the species is on a path towards recovery. National Marine Fisheries Service notes that the “stock should have begun to grow at or near its maximum productivity rate (2–6%) but for unknown reasons the Cook Inlet beluga whale stock is not increasing.”⁴¹⁰

In the draft general permit, DEC prohibits discharges within Type 1 critical habitat, where there are no facilities, but is vague about the requirements for Type 2 critical habitat, where all the draft general permit discharges will occur.⁴¹¹ DEC requires all discharges into Cook Inlet be assessed on a case-by-case basis.⁴¹² DEC is required to follow this mitigation measure and make case-by-case determinations for all discharges in the general permit into Type 2 critical habitat for the Cook Inlet beluga whale.

DEC states that discharges are not likely to cause adverse effects to beluga whales and impacts will be mitigated by coordination with the National Marine Fisheries Service.⁴¹³ This vague statement is insufficient to demonstrate that DEC will take into consideration any measures necessary to prevent harm to the Cook Inlet beluga or degradation of its critical habitat. The draft general permit does not describe if this coordination will include a biological opinion or what mitigation will look like.⁴¹⁴ DEC does not even mention Cook Inlet beluga whales are considered depleted under the Marine Mammal Protection Act (MMPA).⁴¹⁵ DEC is obligated to consider MMPA protections, ESA protections, the potential for take of beluga whales, and also the need for mitigation measures that will minimize impacts to belugas and their critical habitat.

DEC also fails to account for any cumulative impacts from ongoing activities in Cook Inlet that are adding additional stressors to the beluga population, including the proposed Lower Cook Inlet 3D Seismic Survey.⁴¹⁶ This proposed Hilcorp Alaska, LLC project is for a substantial survey of the territorial seas south of Kalgin Island.⁴¹⁷ Hilcorp proposes two lease stipulations to protect Cook Inlet belugas and exclusion and safety zones.⁴¹⁸ This project will potentially occur after the general permit is issued and, depending on findings, could instigate further development in an area abutting the general permit. DEC needs to take into account the potential cumulative impacts from this and all other activities in Cook Inlet that have the potential to further harm belugas.

⁴¹⁰ *Id.*

⁴¹¹ Draft Permit at 13.

⁴¹² Alaska Department of Natural Resources, Division of Oil and Gas Mitigation Measure: Cook Inlet Areawide 2017W at (2)(q).

⁴¹³ Draft Permit at 85.

⁴¹⁴ 50 C.F.R. § 226.220.

⁴¹⁵ Recovery Plan at xii.

⁴¹⁶ Hilcorp Alaska, LLC, 2019 Lower Cook Inlet 3D Seismic Survey Env'tl. Evaluation Doc., Submitted Sept. 2018, Amended Oct. 18, 2018.

⁴¹⁷ *Id.*

⁴¹⁸ *Id.* at 3, 74.

IX. DEC'S ANALYSIS OF HUMAN HEALTH IMPACTS IS INADEQUATE TO PROTECT FOR CONSUMPTION AND OTHER USES.

DEC must address human health criteria. As written, the draft permit does not adequately protect for fish consumption from Cook Inlet's extensive subsistence, commercial, and recreational harvests. There are a broad range of uses and users that depend on Cook Inlet for subsistence, recreation, and their livelihood. However, DEC fails to adequately account for and address these varying interests or the potential health ramifications from different consumption levels and patterns. DEC does not acknowledge or adequately analyze the present uses and cultural significance of Cook Inlet to Alaska Native peoples. Alaska Native peoples rely on resources from Cook Inlet not only for subsistence activities but to sustain their way of life. In the Cook Inlet watershed, there are the Dena'ina villages of Eklutna, Knik, Tyonek, and Salatof. The people of Chickaloon are Ahtna and Dena'ina Athabascan. The people of Ninilchik and Seldovia are Aleut, Alutiqq, and Dena'ina. In addition, Kenai, although classified as an urban area, is home to many Dena'ina. Many of these villages are located directly on the shores of Cook Inlet and rely on the marine resources. DEC does not acknowledge or analyze the importance of Cook Inlet to the Alaska Native communities nor present any direct analysis on this point.⁴¹⁹ In addition, 400,000 people, two thirds of Alaska's population, live in the Cook Inlet watershed. Many partake in recreational fishing. The entirety of Cook Inlet is essential fish habitat, with five species of salmon, halibut, herring, and scallops. The fishery is a significant economic resource for commercial fishermen and this past year the Kenai River, Kasilof River, and Fish Creek harvest was over 300,000 salmon.⁴²⁰ DEC must account for the broad range of users that depend on Cook Inlet.

DEC's determination that there is no danger to human health fails to acknowledge Alaskans' consumption of fish and other marine resources. The most recent study DEC cites to describe fish consumption is from 2009, which broadly provides that fish are currently recommended for human consumption.⁴²¹ Alaskans consume significantly more fish than the rest of the United States, and subsistence users consume even higher amounts and often consume portions of fish and other resources where toxins have even more potential to bioaccumulate.⁴²² DEC has not taken these consumption patterns into account or ensured that it is relying on up-to-date information. In fact, in 2016 a grassroots campaign sought to compel the state to accurately

⁴¹⁹ See James A Fall, *et al.*, Cook Inlet Customary and Traditional Subsistence Fisheries Assessment, Technical Paper No. 285, ADF&G (Jul. 30, 2004) available at <https://www.adfg.alaska.gov/techpap/tp285.pdf>.

⁴²⁰ ADF&G, *Cook Inlet Personal Use Fisheries, Salmon Fishery Harvest and Effort Estimates, All Species* (2018) available at <http://www.adfg.alaska.gov/index.cfm?adfg=PersonalUsebyAreaSouthcentralfishCreekSalmon.harvest>.

⁴²¹ Fact Sheet at 83.

⁴²² See Lori A. Verbrugge, *Fish Consumption Advice for Alaskans: A Risk Management Strategy to Optimize the Public's Health*, State of Alaska (Oct. 15, 2007), U.S. Env't Prot. Agency, *Fish Consumption and Envtl. Justice: A Report Developed from the Nat'l Envtl. Justice Advisory Council Meeting of Dec. 3-6, 2001* (Nov. 19, 2002).

reflect Alaska's fish consumption rate.⁴²³ DEC acknowledged the issue and said it would work to fix it.⁴²⁴ However, that work and acknowledgement is not reflected in this draft permit. DEC does not cite to any studies from after 2014 to substantiate that consumption of fish from Cook Inlet waters should still be unrestricted.⁴²⁵ DEC must carefully consider and update its analysis of fish consumption in light of the significant changes to the draft general permit. It is also important that DEC adopt a precautionary approach in how it analyzes the potential consumption risks and should ensure that the draft general permit is as protective as possible of human health. DEC fails to do so in the current iteration of the permit.

There is also insufficient information on which to base the determination of no unreasonable degradation because there is insufficient information about the potential for bioaccumulation or persistence of pollutants. DEC does not have a sufficient basis for its conclusion that discharges will not present a risk to human health. DEC needs to obtain additional information about the potential for bioaccumulation and revise the permit to protect for human health. This is particularly important in the context of DEC's mixing zone analysis. DEC cannot authorize a mixing zone if the department finds that available evidence reasonably demonstrates that the pollutants could "bioaccumulate, bioconcentrate, or persist above natural levels in sediments, water, or biota to significant adverse levels, based on consideration of bioaccumulation and bioconcentration factors, toxicity, and exposure."⁴²⁶ DEC only provides a conclusory statement that review of "currently available data that reasonable demonstrates bioaccumulation or bioconcentration is not occurring as a result of discharged authorized by the [general permit]."⁴²⁷ DEC cites to no recent studies or data to substantiate this claim. In fact, DEC relies on the produced water study and discharge of drill cuttings authorized through the previous 2007 permit. Over ten years have passed since the last permit issued and DEC must reconsider the pollution that has occurred in the last decade and new science. The other studies cited besides the general permit to substantiate that concentrations of metals and hydrocarbons form mixing areas are below required concentrations are from before the previous permit — 1993 and 2005 respectively.⁴²⁸ DEC's technical findings are stale. This is completely unacceptable given the long history of dumping in Cook Inlet and the need to understand current concerns related to bioaccumulation.

For the first time, the draft general permit broadly opens up the general permit to class C drilling fluids and synthetic drilling fluids. DEC authorizes zones of deposit for the first time, but provides no data or basis for its assertion that metals and other additives will only remain on the

⁴²³ Angela Thomas, *Alaskans Eat Fish—Lots of It!—So Let's Keep Their Waters Clean*, NAT'L GEOGRAPHIC (Oct. 21, 2016) available at <https://blog.nationalgeographic.org/2016/10/21/alaskans-eat-fish-lots-of-it-so-lets-keep-their-waters-clean/>.

⁴²⁴ *Id.*

⁴²⁵ DEC's website has a link to a draft 2015 report providing updated consumption data not cited in the general permit. ADEC, DRAFT: Literature Review of Fish Consumption Rate Research Conducted in the State of Alaska (October 2015).

⁴²⁶ 18 AAC 70.250(a)(1)(A).

⁴²⁷ Fact Sheet at 82.

⁴²⁸ *Id.*

seafloor for a short period of time. In addition, DEC vastly expands the size of the mixing zones. The authorized discharges contain metals and other contaminants, including barite, that are known to bioaccumulate and cause other adverse effects. Little is known about the levels of contaminants that are likely to present a hazard to human health and the environment. DEC relies heavily on the flawed 2007 permit's findings to assert there will not be any bioaccumulation. Inletkeeper and others criticized DEC heavily in previous iterations of this permit for failing to adequately analyze the potential for bioaccumulation or to provide any research or basis for concluding there would not be bioaccumulation. DEC has no apparent authority or basis for making this conclusion, and the fact that it is relying on outdated information raises substantial questions about whether DEC is adequately considering current conditions in Cook Inlet.

As part of its mixing zone analysis, DEC is required to examine a number of factors related to human health, but failed to adequately do so. DEC failed to provide an adequate basis or analysis of whether discharges could “be expected to cause carcinogenic, mutagenic, or teratogenic effects on, or otherwise present a risk to, human health,” as required in the regulations.⁴²⁹ Because chemicals used in oil and gas operations are known or suspected to be linked to carcinogenic and other side effects, it is crucial that DEC provide a meaningful discussion about this factor. Instead, DEC entirely failed to analyze this factor or provide any basis for a determination of whether there are risks to human health. This is insufficient to demonstrate that DEC has adequately considered this factor. DEC merely cites to the protections from the 2007 permit to establish that it is being sufficiently protective. DEC cannot rely on those outdated findings, which already had a questionable — if any — basis. Little is known about the acute and lasting effects from discharges such as drill cuttings. DEC has not provided sufficient information to support its conclusion that there will not be a risk to human health.

DEC fails to consider if discharges will “[c]reate a public health hazard through encroachment on water supply or contact recreation uses of the waterbody.”⁴³⁰ DEC must ensure that “[h]uman health and chronic aquatic life criteria apply at and beyond the boundaries of the mixing zone.”⁴³¹ DEC’s analysis merely provides a table showing the mixing zone size and the dilution for mercury to substantiate that human health criteria will be met.⁴³² Just because mercury is the main issue for bioaccumulation for eating fish does not mean it also is the only driving factor for danger from contact. No explanation is given for this selection. DEC must consider other toxins that have the potential to bioaccumulate, especially in light of the proposal to open the permit to class C drilling fluids and synthetics. DEC’s already insufficient consideration of the size and boundaries of the mixing zones cannot establish that human health criteria for contact will also be met at or beyond the boundaries of the mixing zones.⁴³³ The fact that DEC has dramatically expanded the size of the mixing zones calls into question the

⁴²⁹ 18 AAC 70.250(a)(1)(B).

⁴³⁰ *Id.* at 70.250(a)(1)(C).

⁴³¹ *Id.* at 70.255(c).

⁴³² Fact Sheet at 84.

⁴³³ Fact Sheet at 84.

meaningfulness of DEC's consideration of human health, given that DEC is allowing substantial quantities of pollutants to be spread over such substantial areas in Cook Inlet.

X. DEC IS OBLIGATED TO PREPARE AN OCEAN DISCHARGE CRITERIA EVALUATION.

Preparation of an Ocean Discharge Criteria Evaluation (ODCE) is required for any discharge into the territorial seas by the general permit. The CWA § 403 requires an ODCE for any discharges into territorial seas.⁴³⁴

DEC failed to prepare an ODCE for this draft permit, despite the fact that facilities could potentially seek to discharge in the territorial seas under this permit. DEC instead relies on the previous 2007 ODCE for the 2015 Exploration Permit, "other more recent information," and the general permit's compliance with Alaska water quality standards to validate its decision to not complete an ODCE.⁴³⁵ All these justifications are unavailing and do not relieve DEC of this CWA statutory requirement. DEC cannot rely on the ODCE for exploration facilities because it does not cover the production and other oil and gas activities that DEC proposes to authorize in the general permit. DEC also does not specify what "other more recent information" it relies on, rendering this argument ineffective.⁴³⁶ This provides no indication to the public what information DEC has actually relied on and whether it has actually engaged in a meaningful analysis of the concerns implicated by an ODCE. Lastly, the general permit further attempts to justify failure to comply with the CWA § 403 by asserting that "Alaska [water quality standards] shall be presumed not to cause unreasonable degradation of the marine environment."⁴³⁷ DEC cannot assume compliance because it complies with regulations requiring similar standards. The general permit is not exempt from ODCE requirements and currently violates CWA § 403. DEC must complete an ODCE or affirmatively exclude discharges into territorial seas.

XI. THE MONITORING AND CORRECTIVE ACTION PROVISIONS ARE INADEQUATE.

DEC is required to include adequate compliance provisions in APDES permits.⁴³⁸ The 2007 permit's current standards were inadequate and have allowed for numerous violations of the ELGs.⁴³⁹ DEC now proposes to lower these already inadequate compliance and monitoring provisions even more. DEC needs to strengthen the monitoring and corrective action provisions in the draft permit by: (1) increasing monitoring; (2) increasing the frequency of random inspections; and (3) not using incentives to reduce monitoring standards. DEC also needs to recognize and address Osprey's history of non-compliance.

⁴³⁴ 33 U.S.C. § 1343(a).

⁴³⁵ Fact Sheet at 130.

⁴³⁶ *Id.*

⁴³⁷ *Id.*

⁴³⁸ 18 AAC 83.445.

⁴³⁹ *See* Fact Sheet at 58–61.

A. DEC Should Increase Monitoring.

DEC must ensure environmental monitoring requirements are met by strengthening rather than loosening current standards. Monitoring is essential to ensuring compliance with permit provisions and protecting from environmental harms. Permits are required to detail the: (1) “proper use, maintenance, and installation of appropriate monitoring equipment or methods, including biological monitoring methods;” (2) data types and frequency of intervals; and (3) reporting requirements.⁴⁴⁰ These conditions must ensure compliance with set permit limits by taking all appropriate measurements, including but not limited to mass and volume of effluent.⁴⁴¹ At least once a year, DEC must require a monitoring report from a permit holder.⁴⁴²

DEC’s current monitoring structure has led to numerous violations and should be increased, not reduced further. Following the terms of the 2007 permit, many facilities failed to fully comply with monitoring procedures and, when that monitoring did occur, there were a number of permit violations related to produced water discharges.⁴⁴³ For example, non-compliance and violations rose to the level of requiring enforcement for Granite Point Tank Farm, Trading Bay, and Granite Point Platform.⁴⁴⁴ Some of these were only discovered because of inspections and not because they were properly reported.⁴⁴⁵ DEC’s current testing has allowed exceedances for oil and grease at Trading Bay, MGS Onshore, and Granite Point Tank Farm;⁴⁴⁶ TAH at Granite Point Tank Farm;⁴⁴⁷ and Zinc at the Baker and Dillon Platforms.⁴⁴⁸ DEC is required to collect data and set monitoring standards that ensure compliance with requirements. These examples show how DEC has fallen significantly short of these requirements and should increase standards.

Instead of increasing monitoring, DEC now proposes to reduce monitoring and testing for produced water discharges. For Trading Bay, DEC proposes to substantially reduce the monitoring for both the maximum daily limit and average monthly limit for produced water discharges from monthly (12 times a year) to quarterly (four times a year) for Copper, TAqH, Silver, Zinc, Mercury, Manganese, and WET.⁴⁴⁹ DEC authorizes similar reductions for Granite Point, Baker, Bruce, Dillon, and Tyonek A.⁴⁵⁰ For all the above facilities, WET monitoring had

⁴⁴⁰ 18 AAC 83.455(a)(1)–(3).

⁴⁴¹ *Id.* at 83.455(a)(4).

⁴⁴² *Id.* at 83.455(b).

⁴⁴³ *See* Fact Sheet at 58–61.

⁴⁴⁴ Fact Sheet at 61.

⁴⁴⁵ In scoping for the general permit DEC discovered “numerous inconsistencies and potential misinformation in the [compliance] database.” Fact Sheet at 58. In addition, inspections of Granite Point Tank Farm, Trading Bay, the Anna platform, the King Salmon platform, and Dolly Varden platform all found events of non-compliance. *id.* at 60–61.

⁴⁴⁶ Fact Sheet at 48–50.

⁴⁴⁷ *Id.* at 50.

⁴⁴⁸ *Id.* at 51, 53.

⁴⁴⁹ *Id.* at 102; *see also* LaLiberte Report at 19–23.

⁴⁵⁰ Compare 2007 Fact Sheet at 69–73 to Fact Sheet at 103–105.

established standards for calculating the maximum daily limit and average monthly limit for chronic toxicity units.⁴⁵¹ The draft permit removes those monitoring requirements for chronic WET limitations and modifies requirements so only a quarterly report is required.⁴⁵² DEC acknowledges the removal of the effluent limitation standards results in backsliding, but asserts that the reduction will not violate the ELGs based on the current reasonable potential analysis.⁴⁵³ DEC failed to provide any basis for this conclusion. In addition, DEC allows for reduction in platform testing frequently when two chronic WET tests are below action levels.⁴⁵⁴ DEC provides no rationale for why facilities should not be required to continue conducting chronic WET testing. DEC should not allow for a reduction in chronic WET testing,⁴⁵⁵ and should not allow for reductions in monitoring and testing for produced water discharges in general. Corrective actions and fines are already insufficient to resolve the issues and violations of non-compliance presented under the permit. DEC has no basis for further reducing draft permit monitoring. DEC should instead increase monitoring frequency to ensure that it discovers violations and mitigates harms earlier in the process.

B. DEC Should Increase the Frequency of Random Inspections.

Although DEC retains the ability to conduct routine platform inspections, the draft permit provides no guidance on inspection frequency or procedure.⁴⁵⁶ DEC relies heavily on facilities to collect data and self-report violations.⁴⁵⁷ Reporting violations after the fact does not promote timely response and does not provide the most protective mechanism for preventing environmental harm. When inspections were performed under the 2006 permit, the draft permit notes seven instances of non-compliance.⁴⁵⁸ For example, EPA found numerous violations of non-compliance.⁴⁵⁹ DEC recognizes that “many discrepancies were discovered and corrected for [permittee Hilcorp Alaska, LLC]” when those inspections actually occurred, and notes that “discrepancies for other permittees and facilities may exist without DEC knowledge.”⁴⁶⁰ It is absolutely imperative for DEC to strengthen its inspection program given the long history of violations in Cook Inlet and the serious issues that have come up when there have been inspections. It should be a priority for DEC to conduct inspections and ensure that facilities are meeting what are the already relaxed permit terms. DEC should strengthen the terms of the permit, and ensure DEC provides adequate oversight and is able to take timely enforcement actions.

⁴⁵¹ 2007 Fact Sheet at 69–73.

⁴⁵² Fact Sheet at 106, 113.

⁴⁵³ *Id.* at 113.

⁴⁵⁴ *Id.* at 110.

⁴⁵⁵ *Id.* at 44.

⁴⁵⁶ Draft permit, Appendix A-3.

⁴⁵⁷ *See* Draft permit, Appendix A-9–10.

⁴⁵⁸ Fact Sheet at 60-61.

⁴⁵⁹ *Id.* at 58.

⁴⁶⁰ *Id.*

C. DEC Should Not Use Incentives to Reduce Monitoring Standards.

The draft permit should not reduce monitoring requirements as an incentive to improve data and reduce discharges. The draft permit allows for the opportunity for permittees to reduce frequency of monitoring based on an incentive program. Under the draft permit, permittees who successfully implement data quality improvements and pollution reduction strategies they may collect monitoring data with less frequency.⁴⁶¹ In light of our rapidly changing climate and complexity of the Cook Inlet waterbody, these incentives are inappropriate. DEC should not reduce monitoring standards when adopting new pollution reduction strategies — if anything, monitoring should be required to ensure new pollution reduction strategies are effective. DEC should require data quality improvement and pollution reduction strategies and not tie them to incentives that could reduce data collection. The numerous compliance violations under the 2007 permit do not support DEC’s decision to reduce monitoring standards in any way.

D. DEC Must Take Into Consideration Osprey’s Compliance History.

The draft permit lists facilities that failed inspections, identifying companies and platforms failing to report compliance violations. DEC arbitrarily fails to list the Osprey Platform, even though it now proposes to allow Osprey to discharge under the draft general permit. In June 2018, Cook Inlet Energy, the operator of Osprey, was fined a total of \$50,000 for failing to perform a mandatory test for a new injection well, failing to notify the Alaska Oil and Gas Conservation Commission of “significant pressure anomalies,” and continuing to operate for six months while bleeding off excess pressure.⁴⁶² Cook Inlet Energy was required to report the observed pressures within 24 hours to the Alaska Oil and Gas Conservation Commission, but failed to do so.⁴⁶³ Alaska Oil and Gas Conservation Commission’s order states that Cook Inlet Energy’s “failure to comply with fundamental wellbore mechanical integrity testing requirements raises the potential for similar behavior with more serious consequences.”⁴⁶⁴ Osprey’s existing track record of violations raises serious questions about Cook Inlet Energy’s ability to comply with the terms of this permit.

DEC’s omission of Osprey’s non-compliance and disregard for reporting requirements from the draft permit is arbitrary. The numerous violations of the Julius R Platform are recognized in the draft permit.⁴⁶⁵ Currently under an individual permit, the Julius R Platform is another facility now seeking coverage under the draft permit. There is no reason to detail violations of other platforms not currently covered under the 2006 permit while addressing others. The violations of both the Julius R Platform and Osprey Platform illustrate why those facilities should not be covered under the general permit. At minimum, Osprey’s violations should be included in the compliance history.

⁴⁶¹ Fact Sheet at 111.

⁴⁶² Ben Boettger, *Cook Inlet Energy Fined Over Well Pressure at Osprey Platform*, PENINSULA CLARION (Jun. 25, 2018), available at <https://www.peninsulaclarion.com/news/cook-inlet-energy-fined-over-well-pressure-at-osprey-platform/> (last accessed Mar. 29, 2019).

⁴⁶³ *Id.*

⁴⁶⁴ *Id.*

⁴⁶⁵ Fact Sheet at 59–60.

XII. CONCLUSION

Overall, there are substantial legal and factual problems with the draft permit. DEC is not only continuing to allow substantial discharges to Cook Inlet, but has taken steps in this permit to vastly reduce the standards applicable to Cook Inlet dischargers as a whole. As a result, the permit is not protective of human health or the environment, and will lead to the continued degradation of Cook Inlet. DEC should not issue the draft permit as currently written.

Thank you for the opportunity to comment on this permit.

Sincerely,

s/ Maresa Jensen

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