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November 21, 2011

Via Fax, Email, and First Class U.S. Mail
Larry Hartig, Commissioner
Alaska Department of Environmental Conservation
410 Willoughby Avenue, Suite 303
P.O. Box 111800
Juneau, AK 99811-1800

Re: Request For Adjudicatory Hearing, pursuant to 18 AAC 15.200, regarding the Alaska Department of Environmental Conservation's §401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 (Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters) Limit Reproposal ("401 Certification"), dated October 20, 2011

Dear Commissioner Hartig:

On behalf of Cook Inletkeeper, the Native Village of Port Graham, the Native Village of Nanwalek, the United Cook Inlet Drift Association, and the Cook Inlet Fisherman's Fund, Trustees for Alaska requests an adjudicatory hearing, pursuant to 18 AAC 15.200 ("Request"), regarding the Alaska Department of Environmental Conservation's §401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 (Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters) Limit Reproposal ("401 Certification"), dated October 20, 2011. As the attachments to this request explain, the hearing is requested to adjudicate claims that the 401 Certification violates the Clean Water Act, 33 U.S.C. §§ 1251-1387, because it fails to ensure that the discharges authorized by the National Discharge Pollution Elimination System permit for Cook Inlet oil and gas facilities issued by the U.S. Environmental Protection Agency on June 14, 2007 "will comply with" Alaska water quality standards. 33 U.S.C. § 1341(a).

Pursuant to 18 AAC 15.220, we expect a decision on this request within 30 days after the time has expired for us to reply to any responses to this Request.

We appreciate your prompt attention to this Request. Please contact me at (907) 276-4244 extension 110 or vclark@trustees.org if you need further information.

Very truly yours,

Victoria Clark
Legal Director

Attachments

cc: Sharon Morgan, Program Manager, DEC
Nina Hutton, XTO Energy, Inc
Dale Haines, Union Oil Company of California
Svend Brandt-Erichsen, Marten Law
William Muldoon, ConocoPhillips
Cook Inletkeeper
Native Village of Port Graham
Native Village of Nanwalek
United Cook Inlet Drift Association
Cook Inlet Fisherman's Fund

ATTACHMENT A

NAMES AND ADDRESSES OF ALL PERSONS AFFECTED BY THE DECISION WHOM THE REQUESTOR REPRESENTS

Cook Inletkeeper and its members
P.O. Box 3269
Homer, AK 99603
(907) 235-4068

Native Village of Port Graham and its members
P.O. Box 5510
Port Graham, AK 99603-5510
(907) 284-2227

Native Village of Nanwalek and its members
P.O. Box 8028
Nanwalek, AK 99603
(907) 281-2274

United Cook Inlet Drift Association and its members
43961 K Beach Road, Suite E
Soldotna, AK 99669
(907) 260-9436

Cook Inlet Fisherman's Fund and its members
P.O. Box 39408
Ninilchik, AK 99639
(907) 567-3306

ATTACHMENT B

MEMORANDUM SUPPORTING THE REQUEST FOR AN ADJUDICATORY HEARING

Regarding the §401 Certification Antidegradation Analysis for Cook Inlet Oil and Gas Facilities NPDES General Permit No. AKG-31-5000

NATURE AND SCOPE OF THE ADVERSELY AFFECTED INTERESTS

Cook Inletkeeper was established in 1994 to protect the integrity of the Cook Inlet watershed. It has offices in Homer and Anchorage, located in the Cook Inlet watershed, and seeks to "protect Alaska's Cook Inlet watershed and the life it sustains." The organization was initially funded by monies obtained from various permitees, under a previous version of this permit, to resolve litigation initiated by Trustees for Alaska to enforce violations of the Clean Water Act, 33 U.S.C. §§1251-1387. Cook Inletkeeper has over 400 members, including many who reside, recreate and/or use the Cook Inlet watershed. On behalf of its members and supporters, Cook Inletkeeper enforces the Clean Water Act to protect the water quality and integrity of Cook Inlet for the life it sustains, both human and non-human. The relaxed reproposed effluent limits allow more pollution to be discharged into Cook Inlet, which impacts Cook Inletkeeper's mission and its members use and enjoyment of Cook Inlet.

The Native Village of Port Graham is a federally recognized Tribe. Port Graham is located on the southern end of the Kenai Peninsula and is an Alutiiq community. The people of Port Graham refer to themselves as *Sugpiaq*, which means "real people." The *Sugpiaq* heritage is strongly based in traditional language, subsistence lifestyle, culture traditions and self-government. The traditions and culture of Port Graham and its people have steadfastly survived the Russian and American impact on traditional lifestyles. The people of Port Graham live a subsistence way of life, which includes fishing, hunting, and living off the land. The members of the Native Village of Port Graham rely on clean fresh and marine waters to provide subsistence resources and the relaxed reproposed effluent limits allowing more pollution to be discharged into Cook Inlet impact those resources.

The Native Village of Nanwalek is a federally recognized Tribe. Nanwalek is located ten miles southwest of Seldovia and east of Port Graham, on the southern tip of the Kenai Peninsula. Nanwalek is a traditional Alutiiq village. Subsistence activities are a large part of the culture. Subsistence includes fishing, hunting, and living off the land. The members of the Native Village of Nanwalek rely on clean fresh and marine waters to provide subsistence resources, and the relaxed reproposed effluent limits allowing more pollution to be discharged into Cook Inlet impact those resources.

The United Cook Inlet Drift Association ("UCIDA") is an Alaska cooperative corporation in good standing. UCIDA was incorporated in 1980 to provide for the wholesale or retail marketing, sale, delivery, distribution, or processing of Drift Gill Net salmon and its byproducts; to research, obtain grants, and make studies for the enhancement and marketing of commercial drift caught salmon; and to make proposals and lobby for legislation and regulations to promote and better the commercial salmon

industry. Members of the corporation are valid Limited Entry Salmon Drift Permit and Interim-Use Permit holders in Area "H". The relaxed reproposed effluent limits allow more pollution to be discharged into Cook Inlet, impacting the Tribe's use of Cook Inlet.

Cook Inlet Fisherman's Fund ("CIFF") is an Alaska nonprofit corporation in good standing. CIFF was incorporated in 1975 by commercial fishermen that began fishing in Cook Inlet long before Alaska became a state. The organization was created to act as a single entity that would speak for all fishing gear types and advocate for a coastal community. Its mission is to promote and protect the Cook Inlet commercial fisheries, including protecting social and economic value of the industry through educational programs, newsletters, ads and brochures promoting responsible resource and habitat management, and to raise funds for the purpose of financing any and all legal actions in any courts of law necessary to protect all or any rights of any and all fit members. CIFF also supports and promotes maximum sustained yield management of the fisheries resources using the most reliable scientific and biological information and data available. CIFF's current membership is over 300 members. The relaxed reproposed effluent limits allow more pollution to be discharged into Cook Inlet, impacting CIFF's members' use of Cook Inlet.

Certification by the Department of Environmental Conservation ("DEC") that National Pollutant Discharge Elimination System ("NPDES") Permit No. AKG-31-5000 (Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters) ("Cook Inlet General Permit" or "CIGP") "will comply with" Alaska water quality standards is a prerequisite to the U.S. Environmental Protection Agency ("EPA") reproposal of effluent limits for mercury, copper, silver, Total Aromatic Hydrocarbons, Total Aqueous Hydrocarbons, and Whole Effluent Toxicity being approved and taking effect. 33 U.S.C. § 1341(a)(1). The reproposed effluent limits directly and adversely affect the interests of Cook Inletkeeper, the Native Village of Port Graham, the Native Village of Nanwalek, UCIDA, and CIFF because they are less stringent, thereby allowing higher pollutant loads into Cook Inlet. Although DEC certifies that the effluent limits are in compliance with Alaska water quality standards, that conclusion is not legally valid. DEC, §401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 at 1 (October 20, 2011) ("401 Certification") (attached as Exhibit A).

The Antidegradation Analysis is legally inadequate because the implementation procedures used to make the analysis have not been legally adopted by regulations, as required by the Alaska Administrative Procedure Act ("APA"), AS 42.62. The effects of the legally flawed 401 Certification thus directly and adversely affect the interests of Cook Inletkeeper, the Native Village of Port Graham, the Native Village of Nanwalek, UCIDA, and CIFF as it fails to protect the water quality and integrity of Cook Inlet.

FACTUAL BACKGROUND

This Antidegradation Analysis was performed by DEC for the reproposal of effluent limits for mercury, copper, silver, Total Aromatic Hydrocarbons, Total Aqueous Hydrocarbons, and Whole Effluent Toxicity for the Cook Inlet General Permit. The

background regarding the reproposal of the effluent limits is as described in the 401 Certification.

Pursuant to the Clean Water Act, as a prerequisite to reproposing the effluent limits in the CIGP, DEC must independently issue a 401 Certification, including an Antidegradation Analysis, that the authorized limits will protect beneficial uses and not violate WQS. *See,* 33 U.S.C. § 1341(a). The WQS "specify the degree of degradation that may not be exceeded in a waterbody as a result of human actions. 18 AAC 70.010(b). WQS are set by the antidegradation policy, water quality criteria, and designated uses. *Id.* DEC issued a 401 Certification in 1986, 1998, on May 18, 2007, which was determined to be legally inadequate and remanded, and purportedly on October 20, 2010.

DISPUTED ISSUES OF LAW AND FACT

The 401 Certification Antidegradation Analysis is legally inadequate. DEC's Policy and Procedure Guidance of Interim Antidegradation Implementation Methods ("Interim Methods"), dated July 14, 2010, is an illegal regulation under the APA, and its application is therefore arbitrary and capricious because it is not in accordance with law.

DEC's Antidegradation Analysis is legally invalid and does not support degrading the water quality in Cook Inlet as a result of the reproposed effluent limits.

The CWA was enacted "to restore and maintain the chemical, physical and biological integrity of the Nation's waters." 33 U.S.C. § 1251(a). To accomplish this goal, Congress preserved the rights of states to "prevent, reduce, and eliminate pollution." *Id.* at §1251(b). The states are thus authorized to set water quality standards designed "to protect public health or welfare, enhance the quality of water ... [and] wherever attainable, provide water quality for the protection and propagation of fish, shellfish and wildlife and for recreation." 40 C.F.R. §131.2.

Alaska's water quality standards purportedly establish "the degree of degradation that may not be exceeded in a waterbody as a result of human actions." 18 AAC § 70.010(b). The standards are set through the antidegradation policy, water quality criteria, and designated uses. *Id.* Of great concern in this case, is the legal inadequacy of DEC's antidegradation policy and implementation procedures and subsequent Antidegradation Analysis.

The Clean Water Act, at a minimum, requires that the "State shall develop and adopt a statewide antidegradation policy and identify the methods for implementing such a policy." 40 C.F.R. §131.12 (emphasis added). While Alaska has adopted the federal minimum "3-tier" policy approach that prohibits any degradation in Tier 3 waters, minimizes the impacts of degrading activities in Tier 2 waters, and assures that in every case, existing uses are protected, it has failed for over a decade to adopt legal implementation procedures or a plan to ensure that the Antidegradation Policy is carried out.

The CWA does not specify what must be included in antidegradation implementation procedures, but it is clear that an explicit plan must be adopted. 40 C.F.R. §131.12; *Northwest Environmental Advocates v. U.S. EPA,* 268 F.Supp.2d 1255, 1265 (D. Oregon 2003) (finding that the State had no implementation plan, the court noted that Oregon's omnibus reference that the water quality standards are "intended to implement the Antidegradation Policy" was insufficient). In 1997, EPA reviewed the state's water quality standards and formally notified the State that,

> [b]ased on our review of the 1994 and 1996 WQS regulations, EPA has identified a number of areas to be addressed during the next triennial review cycle.... The following paragraphs summarize the subject areas that EPA believes are important for Alaska to consider during the next triennial review cycle. [¶] Alaska needs to identify implementation procedures for its antidegradation and mixing zone policies. This is particularly important for State issued permits and NPDES permits issued by EPA. In order for EPA to successfully implement the intent of Alaska's WQS, and to avoid confusion during the § 401 certification process, EPA needs additional clarification as to how Alaska intends to implement these State policies.

Letter from Philip Millam, Director, Office of Water, EPA, to Michele Brown, Commissioner, ADEC, April 7, 1997 ("1997 EPA Letter") (relevant excerpts attached as Exhibit B) at 2 (emphasis added).

On July 14, 2010, DEC issued Interim Antidegradation Implementation Methods ("Interim Methods") — with no public process — to serve "as interim guidance to be used while the Division [of Water] works with other agencies, permittees and the public develop more detailed procedures." State of Alaska, Department of Environmental Conservation, Interim Antidegradation Implementation Methods at 1 (July 14, 2010). DEC did not undertake any formal rulemaking process prior to the issuance of the Interim Methods.

DEC, however, must comply with the APA when it promulgates regulations. AS 46.03.880(a). The term "regulation" is broadly defined in the APA.

> [E]very rule, regulation, order, or standard of general application or the amendment, supplement, or revision of a rule, regulation, order, or standard adopted by a state agency to implement, interpret, or make specific the law enforced or administered by it, or to govern its procedure, except one that relates only to the internal management of a state agency; ... "regulation" includes "manuals," "policies," "instructions," "guides to enforcement," "interpretative bulletins," "interpretations," and the like, that have the effect of rules, orders, regulations, or standards of general application, and this and similar phraseology may not be used to avoid or circumvent this chapter; whether a regulation, regardless of name, is covered by this chapter depends in part on whether it affects the public or is used by the agency in dealing with the public.

AS 44.62.640(a)(3). *See also Gilbert v. State, Dep't of Fish and Game*, 803 P.2d 391, 396 (Alaska 1990) (stating that "[t]he legislature has broadly defined what constitutes a regulation under the [Alaska] APA"); *Messerli v. Dep't of Natural Res.*, 768 P.2d 1112, 1117 (Alaska 1989) (stating that the courts "take an expansive view of the term regulation), *overruled on other grounds by Olson v. State, Dep't of Natural Res.*, 799 P.2d 289 (Alaska 1990). To determine whether something is a regulation under the APA, the "character or use of the policy or rule" is important, not the label given the policy or rule by the agency. *Jerrel v. State, Dep't of Natural Res.*, 999 P.2d 138, 143 (Alaska 2000). Thus, "an indicia of a regulation is that it implements, interprets or makes specific the law enforced or administered by the state agency;" "[a]nother indicia of a regulation is that it 'affects the public or is used by the agency in dealing with the public.'" *Kenai Peninsula Fisherman's Co-op Ass'n, Inc. v. State*, 628 P.2d 897, 905, 906 (Alaska 1981), *citing* AS 44.62.640(a)(3). The Alaska Supreme Court has also indicated that if a policy or rule establishes criteria upon which to make a decision, *Kachemak Bay Watch, Inc. v. Noah*, 935 P.2d 816, 825 (Alaska 1997), or make policy decisions, *Usibelli Coal Mine, Inc. v. State*, 921 P.2d 1134, 1149 n.24 (Alaska 1996), then it is a regulation.

The Interim Methods fall within the definition of "regulation" under the APA because the Interim Methods implement the antidegradation policy, provide the basis for DEC to make policy decisions, establish the criteria for evaluating discharge permits, and are used by DEC to apply that policy when issuing APDES permits and certifying NPDES permits, which affect the public. Because the Interim Methods are a regulation, DEC was required to comply with the procedures of the APA prior to issuing the Interim Methods. AS 46.03.880(a). However, the Interim Methods were not promulgated under the procedures set forth in the APA, *see generally* AS 44.62, and thus, the Interim Methods are an illegal regulation and invalid for use in performing antidegradation analyses.

Thus, when DEC says in its cover letter for the 401 Certification that it "finds that any reduction in natural water quality of Cook Inlet to be in accord with the requirements of 18 AAC 70.015, Antidegradation Policy," there is no basis for the finding because no antidegradation implementation analysis could legally be performed with the Interim Methods, which are arbitrary and capricious as a matter of law. 401 Certification at 2. Litigation regarding the legality of the Interim Methods and its use for this very purpose is pending in Alaska Superior Court, *Alaska Ctr. for the Env't, et al. v. State, Dep't of Envtl. Cons.*, Case No. 3AN-11-7159 CI.

REASONS DEC SHOULD GRANT THE REQUEST FOR ADJUDICATORY HEARING AND ANTICIPATED HEARING TIME

As detailed above, these issues present significant questions of both law and fact that directly undermine the legal validity of DEC's 401 Certification for the reproposed effluent limits. DEC's decision to justify dramatically increasing the pollutant load entering Cook Inlet from oil and gas activities threatens the interests of Cook Inletkeeper, the Native Village of Port Graham, the Native Village of Nanwalek, UCIDA, and CIFF, their members and the public. An adjudicatory hearing is therefore necessary

to address these issues and give DEC the opportunity to correct its errors, avoid litigation, and appropriately enforce Alaska's water quality standards.

This Request is amenable to a hearing on the record and summary judgment, and it is likely in the best interest of all parties to stay proceedings on this Request until a decision is reached in *Alaska Ctr. for the Env't, et al. v. State, Dep't of Envtl. Cons.*, Case No. 3AN-11-7159 CI.

Respectfully submitted this 21st day of November 2011,

Victoria Clark
Legal Director
Trustees for Alaska

STATE OF ALASKA

DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF WATER
WASTEWATER DISCHARGE AUTHORIZATION PROGRAM

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October 20, 2011

DEC File No: 2339.48.027

Michael A. Bussell
Director, Office of Water and Watersheds, Suite 900
U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, WA 98101

RE: §401 Certification Antidegradation Analysis for NPDES Permit No. AKG-31-5000 (Cook Inlet Oil and Gas Exploration, Development and Production Facilities located in State and Federal Waters) Limit Reproposal

In accordance with Section 401 of the Clean Water Act and with Alaska Administrative Code 18 AAC 15 and 18 AAC 70 (Water Quality Standards) the Alaska Department of Environmental Conservation (ADEC) issues the enclosed Section 401 Certificate of Reasonable Assurance, including an Antidegradation Analysis.

National Pollutant Discharge Elimination System (NPDES) permit AKG31-5000 regulates discharges from oil and gas exploration, development and production facilities at on-shore and off-shore locations in Cook Inlet, Alaska.

A Section 401 Certificate of Reasonable Assurance for the reissuance of NPDES General Permit AKG31-5000 was released with the final permit on May 18, 2007. An antidegradation analysis under 18 AAC 70.015 was included in the certification. That permit was subject to a challenge in the U.S. 9th Circuit Court (the "Court") and the disposition was filed October 21, 2010 [See *Cook Inletkeeper et al, petitioners v. US Environmental Protection Agency (EPA)*, No. 07-72420]. The Court granted EPA's motion for voluntary partial remand of the permit, subject to certain reporting requirements.

Among those requirements, the Court asked EPA to report on the State of Alaska's progress in developing interim methods for implementing its antidegradation policy under 18 AAC 70.015. The state had already developed these new methods and had finalized them on July 14, 2010. EPA has reviewed the interim methods and

has found them to be consistent with Alaska's state policy and the Clean Water Act. These guidelines and additional information on ADEC's antidegradation policy are available at:

http://www.dec.alaska.gov/water/wqsar/Antidegradation/index.html

EPA notified the State of its intent to repropose effluent limits for existing produced water discharges covered by the permit and to reissue a Fact Sheet to clarify those limits. On December 2, 2010, EPA provided the State with a preliminary draft Fact Sheet and permit for the reproposed effluent limits and requested draft 401 certification of the permit.

The department reviewed the existing and proposed wastewater discharges with respect to the reproposed limits and the antidegradation requirements of the Alaska Water Quality Standards and finds any reduction in natural water quality of Cook Inlet to be in accord with the requirements of 18 AAC 70.015, Antidegradation Policy.

Department regulations provide that any person who disagrees with this decision may request an informal review by the Division of Water Director in accordance with 18 AAC 15.185 or adjudicatory hearing in accordance with 18 AAC 15.195 - 18 AAC 15.340. An informal review request must be delivered to the Division of Water Director, 555 Cordova Street, Anchorage, AK 99501 within 15 days after receiving this permit decision. An adjudicatory hearing request must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Street, Suite 303, Juneau, AK 99811, within 30 days after the date of this permit decision. If a hearing is not requested within 30 days, the right to appeal is waived.

By copy of this letter, we are advising EPA of our actions and enclosing a copy of the Certificate for their use.

If you have any questions regarding this amended §401certification, please contact Michelle Bonnet at Michelle.Bonnet@Alaska.gov.

Sincerely,

Sharon Morgan

Sharon Morgan
Program Manager

cc: via e-mail

Cindi Godsey, EPA Region 10/ANC
Lynn J. Tomich Kent, DEC/ANC
Steve Ross, AK AG Office/ ANC
Diane Soderlund, EPA Region 10
Bruce Buzby, ADNR/Oil and Gas
Nina Brudie, ADNR/DCOM/ANC
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Mike Lidgard/EPA Region 10
Cam Leonard/AK AG Office/FBX
Courtney Weber, EPA Region 10
Hanh Shaw, EPA Region 10
Trustees for Alaska

STATE OF ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
CERTIFICATE OF REASONABLE ASSURANCE
REPROPOSED LIMITS FOR AKG31-5000

A Certificate of Reasonable Assurance, as required by Section 401 of the Clean Water Act, was requested by EPA Region 10 for NPDES General Permit No. AKG31-5000, COOK INLET OIL AND GAS EXPLORATION, DEVELOPMENT AND PRODUCTION FACILITIES on December 2, 2010. Water quality certification is required for the proposed activities because the activities will be authorized by an Environmental Protection Agency ("EPA") permit identified as No. AKG31-5000. Discharge(s) regulated by the reproposed effluent limits may result from the existing and proposed activities under the General Permit (the "permit").

Public notice of the application for a §401 certification was first made in accordance with 18 AAC 15.140 through an EPA notice dated March 1, 2006 for the permit. The final certification was released to the public by the Alaska Department of Environmental Conservation ("ADEC" or "department") when the permit was issued on May 18, 2007. The certification included an antidegradation determination. An on-line copy of that certification is available at:

http://yosemite.epa.gov/r10/water.nsf/NPDES+Permits/General+NPDES+Permits/$FILE/AKG315000-Final-Cert.pdf

The department issued the 2007 certification without providing adequate opportunity for public comment on the antidegradation determination under 18 AAC 70.015. The permit was subject to a challenge in the U.S. 9th Circuit Court (the "Court") and the disposition filed October 21, 2010 [See *Cook Inletkeeper et al, petitioners v. US Environmental Protection Agency (EPA),* No. 07-72420]. The Court granted EPA's motion for voluntary partial remand of the permit, subject to certain reporting requirements.

In response to the Court's partial remand, EPA plans on reproposing certain produced water effluent limits for the existing facilities covered by the permit. As such, EPA has provided the department with a draft permit and fact sheet for the reproposal and has requested that the department provide final §401 certification for the reproposal.

The department reviewed the EPA draft permit and fact sheet with reproposed limits and certifies that there is reasonable assurance that the limits are in compliance with the requirements of §401 of the Clean Water Act, which includes the Alaska Water Quality Standards (18 AAC 70).

ANTIDEGRADATION ANALYSIS UNDER 18 AAC 70.015
CERTIFICATE OF REASONABLE ASSURANCE
REPROPOSED LIMITS FOR AKG31-5000

The antidegradation policy of the Alaska Water Quality Standards ("AWQS") at 18 AAC 70.015 states that the existing water uses and the level of water quality necessary to protect existing uses must be maintained and protected. This analysis provides rationale for the Alaska Department of Environmental Conservation ("ADEC" or "department") decisions required under §401 of the Clean Water Act ("CWA") with respect to the reproposed limits and antidegradation policy.

Background on Cook Inlet receiving waters and existing discharges:

The portion of Cook Inlet north of Kalgin Island is considered state waters subject to 18 AAC 70. All other waters covered by NPDES permit AKG31-5000 ("the permit") are considered waters under federal jurisdiction unless specifically excluded. The permit prohibits discharge in certain protected areas of Cook Inlet, which are clearly identified in the permit. Many areas of Cook Inlet are protected because of a prohibition for oil and gas exploration, development, and production in those areas. These areas include shallower, near-shore waters, and areas such as state game refuges or critical habitat areas (see section I.C. of the permit).

The permit covers discharges from oil and gas facilities for exploration, development, and production activities. For the existing oil and gas facilities, up to 19 identified discharges, including produced water, are possible from both shore-based facilities and platforms. Existing federal effluent guidelines allow for the discharge of produced water into Cook Inlet (40 CFR Part 435, Subparts A and D). The permit applies effluent limits to produced water discharges (Discharge 015) based on the potential of the discharge to exceed AWQS.

Antidegradation determination:

ADEC's approach to implementing the antidegradation policy, found in 18 AAC 70.015, is based on the requirements in 18 AAC 70 and the department's July 14, 2010, *Policy and Procedure Guidance for Interim Antidegradation Implementation Methods (Interim Methods)*. Using these requirements and policies, the department determines whether a water body or portion of a water body is classified as Tier 1, Tier 2, or Tier 3.

The permit potentially covers discharges in all of Cook Inlet. Relevant information on the entire water body was reviewed for the determination. However, the permit covers existing facilities at known locations, so the main determination is made on Cook Inlet facilities for the specific reproposed limits for produced water discharges (Discharge 015 in the permit).

Tier 3 water bodies are those high quality waters that constitute Outstanding National Resources, and states must assure that the quality of such waters shall be maintained and protected (18 AAC 70.015(a)(3)). This is consistent with the *Interim Methods* recommendations. Alaska has not currently identified any Tier 3 water bodies. However, the permit excludes discharge into protected areas, such as Kachemak Bay and other geographic restrictions.

Tier 1 protection (18 AAC 70.015(a)(1)) applies to water bodies whose existing quality is no better than the Clean Water Act's "fishable/swimmable" uses, and existing water uses and the level of water quality necessary to protect such uses must be maintained and protected (see 18 AAC 70.020(a)(1)(C) and 18 AAC 70.020(a)(1)(B)(i). Cook Inlet as a whole and the specific locations of the existing oil and gas facilities are of higher quality than Tier 1.

ADEC has determined that Tier 2 applies to the receiving waters in Cook Inlet using the ADEC antidegradation *Interim Methods* and ADEC's knowledge of the water bodies covered by the permit. In the context of reissuing this permit, the department determined that the water bodies are Tier 2 and an antidegradation analysis under 18 AAC 70.015(a)(2) is applied to permit limits that were relaxed. The original Fact Sheet for the permit describes the derivation of those limits.

The Antidegradation Policy of the AWQS (18 AAC 70.015(a)(2)) states that, if the quality exceeds levels necessary to support propagation of fish, shellfish, and wildlife in and on the water, that quality shall be maintained and protected, unless the department makes five specific findings:

- *18 AAC 70.015 (a)(2)(A). Allowing lower water quality is necessary to accommodate important economic or social development in the area where the water is located.*

Treatment methods for produced water include reinjection and additional treatment, as well as those required by the permit and described in the Effluent Limitation Guideline at 40 CFR Part 435 reinjection and additional treatment. The alternatives of reinjection and additional treatment are discussed in the section below that addresses 18 AAC 70.015(a)(2)(D). Due to the age of the platforms and oil field, these two alternatives are not feasible or economical, and the level of treatment as required by the permit is the appropriate treatment. Because a higher level of treatment carries with it the likelihood that facilities would no longer be economic to operate, the lowering of water quality is necessary in order for production from these facilities to continue.

The Alaska Department of Natural Resources (ADNR) tracks oil and gas activity in the State when it develops findings for lease sales. A 2009 lease sale finding included the following socio-economic information on the oil and gas industry:

Alaska's state-wide economy depends heavily on revenues related to petroleum development, which totaled $4.57 billion in fiscal year 2007. The petroleum industry is Alaska's largest industry, annually spending $2.1 billion, including $422 million on payroll and $1.7 billion on goods and services.

Overall, this spending generates 33,600 jobs, $1.4 billion in payroll, and value added to the Alaska economy of $1.8 billion for total output of $3.1 billion. Oil and gas accounts for 12 percent of private sector jobs and 20 percent of private sector payroll. The oil and gas industry has the highest monthly wage in Alaska, averaging $7,754, which is 2.8 times higher than the statewide average of $2,798.

In the Matanuska-Susitna Borough, it is estimated that over 350 residents are employed by the oil and gas industry with an average monthly wage of $8,382. The economic impact of the oil and gas industry in the Matanuska-Susitna Borough was an additional 2,105 jobs for Matanuska-Susitna residents, with a payroll of $84 million. The induced impacts were 1,558 jobs and $38 million in payroll. Total economic impact was estimated to be 4,016 jobs and $158 million for the Matanuska- Susitna Borough.

In Anchorage, it is estimated that about 2,400 workers are employed by the oil and gas industry. Estimated total payroll is over $239 million with an additional $845 million in goods and services in the Anchorage economy. Indirect impact of the oil and gas industry is estimated to be 11,600 jobs and $431 million in payroll, with an induced impact of 2,320 jobs and $69 million in payroll.

The oil and gas industry has been important to the economy of the Kenai Peninsula for over 40 years, and five of the top 10 employers are connected to the oil industry. Direct impact of the oil and gas industry has been estimated at 674 jobs with a payroll of $63 million. Indirect economic impacts are estimated to be an additional 2,822 jobs and $94 million in payroll. The induced impacts were 777 jobs and $20 million in payroll. Total economic impact on the Kenai Peninsula was 4,273 jobs and $177 million in payroll, which was 26 percent of the area's employment and 36 percent of the area's payroll. Taxable properties for the oil and gas industry were reported at $607 million, and eight of the top 10 property tax payers in the borough were oil and gas industry companies.

Demand for natural gas in the Cook Inlet area is projected to exceed supply by 2015 unless new reserves are discovered and developed. Decreasing supplies of Cook Inlet natural gas led to the closure of the Agrium fertilizer plant in 2007, resulting in the loss of 250 jobs in the Kenai Peninsula Borough. The liquefied natural gas (LNG) export license and supply contracts will expire in 2011, and continued operation of the LNG plant may be

jeopardized without long-term proven supplies of natural gas. (In February 2011, Conoco-Phillips announced that the LNG plant will be shut down due to gas supply uncertainties.)

Without increased Cook Inlet natural gas supplies, prices for residential and commercial natural gas and for electricity will continue to increase. Between 2000 and 2006, the price of natural gas increased 91 percent for Anchorage households and the cost of electricity increased 28 percent.

According to an industry group, the Alaska Oil and Gas Association, Alaska's oil and gas industry accounts for an average of 20 percent of US domestic production. The industry also makes significant investments in facilities and infrastructure throughout the state, with over $50 billion in North Slope and Cook Inlet.

Oil and gas is an important component of revenues to support government services to Alaskans. At the end of the State's 2007 fiscal year, oil and gas revenues represented 88 percent of the total revenue to the state. Oil and gas exploration, development, and production activities in Cook Inlet and in Alaska have important social and economic significance.

ADEC finds that authorization of these discharges in Cook Inlet requires the lowering of water quality and that this lowering of water quality is necessary to accommodate important economic development, and that this requirement is met.

- *18 AAC 70.015 (a)(2)(B). Except as allowed under this subsection, reducing water quality will not violate the applicable criteria of 18 AAC 70.020 or 18 AAC 70.235 or the whole effluent toxicity limit in 18 AAC 70.030.*

EPA is reproposing limits in the permit that were changed from those in the public notice version and the final May 2007 permit, and which, along with the State's Section 401 Certificate of Reasonable Assurance, were not available for public comment. EPA's Fact Sheet for the reproposed limits compares these limits with those from the previous permit limits (see permit # AKG28-5000).

The reproposed limits for Discharge 015 at the subject facilities (Granite Point Treatment Facility and Platform, East Foreland Facility, Platform Anna, Platform Bruce, Platform Baker, Platform Dillon, Trading Bay Production Facility, and Tyonek A) will ensure that water quality criteria will not be exceeded at or beyond the boundary of the mixing zones at these facilities. The mixings zones are specifically authorized in accordance with 18 AAC 70.240 and have been sized to ensure that all applicable water quality criteria are met at all points outside of the mixing zones.

ADEC finds that the reduced water quality will not violate applicable water quality criteria and that this requirement is met.

- *18 AAC 70.015 (a)(2)(C). The resulting water quality will be adequate to fully protect existing uses of the water.*

The waters in Cook Inlet are protected for the following uses, per 18 AAC 70.020(a)(2)(A) – (D) and 18 AAC 70.050: Water supply for aquaculture, seafood processing, and industrial activities; water recreation, both contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life. The reproposed limits for Discharge 015 at the subject facilities will ensure that water quality criteria will not be exceeded at or beyond the boundary of the mixing zones at these facilities.

As part of the requirements of the most recent reissuance of the permit, operators discharging more than 100,000 gallons of produced water a day were required to conduct a study addressing the fate and transport of pollutants in the water column and sediments. Existing dischargers, Chevron and XTO Energy, included this required study into a broader research effort on sediment and water quality in Cook Inlet called the Integrated Cook Inlet Environmental Monitoring and Assessment Program (ICIEMAP). This program has provided more site-specific information on water quality, sediment quality, and physical and biological parameters for Cook Inlet than was available for the 2007 antidegradation analysis.

The overall statistical design of the ICIEMAP study followed EPA's Environmental Monitoring and Assessment Program (EMAP) protocol. Partners in this study include the National Oceanic and Atmospheric Administration (NOAA), the Cook Inlet Regional Citizens Advisory Council (CIRCAC), and ADEC. ADEC administers the EPA EMAP program in Alaska and CIRCAC provides scientific support for data collection and reporting for Cook Inlet studies. The report incorporating all of the ICIEMAP project data and conclusions has not yet been finalized.

More information on the ICIEMAP projects can be found at:

http://ccma.nos.noaa.gov/stressors/pollution/nsandt/iciemap.html

In addition to sampling points in marine waters, samples were taken from 18 Cook Inlet region rivers to determine whether rivers are transporting hydrocarbons and metals into the inlet. Sampling was conducted in 2008 and a final report from Chevron and XTO Energy, fulfilling the permit requirement, was submitted to EPA in July, 2010.

This report and the ICIEMAP studies have provided a large database for water and sediment parameters in Cook Inlet. Some major conclusions of the study required by this permit were:

- Concentrations of barium, cadmium, chromium, copper, nickel, lead, and zinc for bottom sediments in Cook Inlet were at background values at all 55 sampling stations.

- Concentrations of arsenic, manganese, and selenium for bottom sediments in Cook Inlet were above background values at a few locations, but could be caused by natural changes of rock and sediments.

- Concentrations of many metals in bottom sediments were below sediment quality guidelines that evaluate effects to bottom dwelling test organisms. (Note: Although the AWQS do not include specific sediment quality standards, these types of tests help to evaluate whether metals in the water column are concentrating at levels in sediments that can impact aquatic organisms directly or through the food web.)

- Mercury concentrations for bottom sediments in Cook Inlet were above background at 10 of 55 locations, including 5 in Kachemak Bay. (Note: Global sources of mercury discharges, including aerial deposition from combustion sources, impact waterbodies world-wide. The permit prohibits any discharge into Kachemak Bay.)

- Increased metals concentrations in bottom sediments could not be correlated to discharges of produced water.

- The study found no evidence of hydrocarbon accumulation from produced water discharges from the Trading Bay or East Forelands facilities.

- Concentrations of dissolved metals in marine waters were comparable to background and no elevations of dissolved metals from produced water could be identified.

- Concentrations of dissolved metals in Cook Inlet rivers was variable and probably a function of both natural and man-induced sources, including mining.

Other findings of the report support the conclusion that discharges from the existing platforms and facilities have not adversely impacted Cook Inlet nor can increased metals or hydrocarbons in Cook Inlet be directly attributable to them.

It should be noted that the Cook Inlet water quality studies measured metals using dissolved methods. The AWQS adopt the dissolved form of metals with the rationale that dissolved metals are the bioavailable form of metals in receiving waters. EPA requires that the more conservative total recoverable metals methods are used in NPDES permits. The permit's effluent limits require total recoverable methods, which complicates direct comparisons of effluent concentrations to the

results from the ICIEMAP studies. However, the preliminary conclusions based on the Chevron/XTO Energy report is that metals concentrations are within baseline concentrations.

Based on the information from this study and review of monitoring reports and other data, the reproposed effluent limits protect existing uses of affected waters in Cook Inlet. The water quality will be adequate to protect existing uses when a facility operates under the terms and conditions of the permit.

ADEC notes that due to platform closures associated with the volcanic eruption of Mt. Redoubt, the monitoring data was limited. Several platforms closed during the emergency and some may stop discharging or be permanently shut in.

ADEC finds that the resulting water quality will be adequate to fully protect existing uses and that the requirement is met.

- *18 AAC 70.015(a)(2)(D). The methods of pollution prevention, control, and treatment found by the department to be most effective and reasonable will be applied to all wastes and other substances to be discharged.*

The permit contains requirements for all discharges for pollution control (Section II.A of the permit). These include:

- Discharge only of those pollutants identified in the Notice of Intent (NOI).
- The permittee shall not discharge diesel oil, halogenated phenol compounds, or other similar pollutants listed.
- If any discharge is commingled (mixed together), the most stringent effluent limits for an individual discharge apply to the resulting discharge.

The specific pollution prevention, control, and treatment (in Section II.G of the permit) required for Discharge 015 (Produced Water and Produced Sand) include:

- A new diffuser for the Trading Bay Production Facility to improve mixing of effluent into Cook Inlet, which has been installed since the reissuance of this permit.
- Provisions to minimize any rerouting of platform produced water to shore-based facilities.
- Notification if water collected from a spill clean-up is discharged with the produced water waste stream.
- Increased monitoring frequency for metals and hydrocarbons if limits or triggers are not in compliance with the permit.
- Visual sheen monitoring for oil and grease plus sample collection and monitoring if sheen is observed at platforms.
- Accelerated testing, identification and evaluation of any increases in chronic toxicity of the effluent as monitored with whole effluent toxicity testing.

The above management practices and safeguards will be applied to discharges of produced water from the shore-based facilities and platforms in Cook Inlet.

Alternative methods of treatment of produced water include reinjection via Class II Underground Injection Control (UIC) wells or additional treatment of the produced water prior to discharge. Such methods are problematic given both the older platforms in Cook Inlet and the mature oil fields the platforms are working. Older platforms are generally too small to allow space for additional treatment facilities. As oil reserves are depleted, more produced water is generated to access smaller amounts of oil. The increasing volume of this produced water makes the design of additional treatment difficult. Cook Inlet fields have been producing for over 40 years.

The limited life remaining in the Cook Inlet fields makes it impractical to require reinjection when considering the cost associated with drilling and maintaining the injection well site. Common problems, even with existing sites, include plugging of the wells by solids and piping corrosion from brine water. At some sites, the geology of the underlying formations cannot accept the large volumes of produced water (EPA, *Development Document for Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category*).

Additional treatment methods, such as cyclonic separation or package treatment plants, are too costly and difficult to implement given the limited space available on older, smaller platforms. Newer facilities can be designed with such consideration in place. However, for existing facilities, the mixing zone established ensures that produced water discharges will comply with applicable water quality standards at the edge of the mixing zones.

ADEC finds that the methods of pollution prevention, control, and treatment included in the permit are the most effective and reasonable and that the requirement is met.

- *18 AAC 70.015(a)(2)(E). All wastes and other substances discharged will be treated and controlled to achieve (i) for new and existing point sources, the highest statutory and regulatory requirements; and (ii) for nonpoint sources, all cost-effective and reasonable best management practices.*

Formation water occurs with hydrocarbons within Cook Inlet geologic strata and is released as produced water (Discharge 015 in the permit) during oil and gas extraction. Unlike a steady-state discharge from a treatment plant, the quality and quantity of produced water from an active production facility can vary.

The quality of the water in this permit cycle was determined from discharge monitoring reports and permit application information submitted to EPA and the

department. The quantity was estimated from previous production. The Fact Sheet and previous §401 certification describe how effluent limits and mixing zones were established using that information.

The highest statutory and regulatory requirements are defined in the 2003 version of the AWQS at 18 AAC 70.990(30) as:

- (A) any federal technology-based effluent limitation identified in 40 C.F.R. 125.3 and 40 C.F.R. 122.29, as amended through August 15, 1997, adopted by reference;
- (B) minimum treatment standards in 18 AAC 72.040; and
- (C) any treatment requirement imposed under another state law that is more stringent than a requirement of this chapter.

(A) Federal technology-based effluent limitations

EPA has issued Effluent Limitations Guidelines that establish technology-based limits for produced water (40 CFR Part 435) for the oil and gas extraction industry. These guidelines are divided into sub-categories to account for location and economic factors associated with the operation.

Re-injection has been established as best available technology economically achievable (BAT) for the Onshore and Coastal sub-categories with respect to produced water discharges in most cases. As a result, the discharge of produced water from Coastal and Onshore sub-category wells is prohibited, except in Cook Inlet, Alaska. Due to a lack of disposal capability and the adverse conditions in Cook Inlet, the Coastal sub-category with respect to produced water was determined to be appropriate for facilities in Cook Inlet.

(B) Minimum treatment standards in 18 AAC 72.040

18 AAC 70.990(30)(B) (2003 version) appears to be in error, as 18 AAC 72.040 describes discharge to sewers and not minimum treatment. The correct reference appears to be 18 AAC 72.050, Minimum treatment. This section of the regulations refers to domestic wastewater and not produced water, and it does not apply to this analysis.

(C) Any treatment requirement imposed under another state law that is more stringent than 18 AAC 70

Other regulations beyond 18 AAC 70 that apply to this permitting action include 18 AAC 15 and 72. Neither the regulations in 18 AAC 15 and 72 nor another state law that ADEC is aware of impose more stringent treatment requirements than those found in 18 AAC 70.

ADEC determined that for the subject facilities under antidegradation review and based on the high volumes of the discharges requiring treatment, the unsuitable conditions for re-injection, the physical conditions in Cook Inlet, and the existing federal effluent guideline satisfy that the highest statutory and regulatory requirements are applied to control these discharges.

ADEC finds that the treatment of the discharges conforms to the highest statutory and regulatory requirements and that the requirement is met.

10/20/11
Date

Sharon Morgan
Sharon Morgan, Manager
Wastewater Discharge Authorization Program

REFERENCES

Alaska Department of Environmental Conservation, July 14, 2010. *Policy and Procedure Number 05.03.103. Interim Antidegradation Implementation Methods.*

Alaska Department of Natural Resources, January 20, 2009. *COOK INLET AREAWIDE OIL AND GAS LEASE SALE Final Finding of the Director*

Alaska Oil and Gas Association, May 31, 2006. *Comments on U.S. Environmental Protection Agency Authorization to Discharge under the National Pollutant Discharge Elimination System (NPDES) for oil and gas extraction facilities in federal and state waters in Cook Inlet, AKG 31-2000 (formerly AKG-28-5000).*

http://www.aoga.org/facts-and-figures/

EPA AKG31-5000 Discharge Monitoring Reports (DMRs), 2007 – 2010. Submitted by permittees for Granite Point, East Forelands, Trading Bay, Anna, Bruce, Baker, Dillon and Tyonek facilities.

EPA AKG31-5000, May 2007. Authorization to Discharge under NPDES for Oil and Gas Extraction Facilities in Federal and State Waters in Cook Inlet Permit and Fact Sheet.

EPA, October, 1996. *Development Document for Final Effluent Limitations Guidelines and Standards for the Coastal Subcategory of the Oil and Gas Extraction Point Source Category*, EPA-821-R-96-023.

Kinnetic Laboratories Inc., July 2010. *Final Report: Produced Water Discharge Fate and Transport in Cook Inlet, 2008 – 2009 NPDES Permit No. AKG31-5000.*

http://www.touchoilandgas.com/usepa-produced-water-permitting-a7136-1.html

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

APR 07 1997

REPLY TO
ATTN OF: OW-134

Michele Brown, Commissioner
Alaska Department of Environmental Conservation
410 Willoughby Ave., Suite 105
Juneau, AK 99801-1795

Dear Ms. Brown:

The Environmental Protection Agency (EPA) has completed its review of the Alaska Water Quality Standards (WQS) adopted December 4, 1994, and submitted to EPA for approval on January 26, 1995, and WQS adopted February 14, 1996, which were subsequently submitted to EPA for approval on September 26, 1996. In response to a petition filed in the State, by the Sierra Club Legal Defense Fund (SCLDF petition), on January 12, 1995, Alaska solicited comments on five portions of the newly adopted December 1994 WQS. At the same time, Alaska conducted a public review of proposed revisions to the antidegradation policy in the WQS regulations. As a result of the public review of the five petition issues and the antidegradation policy, several changes were made to these earlier December 1994 WQS and are reflected in the WQS adopted in February 1996. We have conducted our review of both WQS packages together, using the most recent adopted version where it replaces an earlier provision.

EPA approval of Alaska WQS is considered a Federal action and EPA must comply with the Section 7 consultation requirements of the Endangered Species Act (ESA). Section 7 states that "all federal agencies shall utilize their authorities on furtherance of the purposes of the ESA by carrying out programs for the conservation of endangered and threatened species" and "each federal agency shall insure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species." EPA has initiated discussions with the Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) about the need for informal or formal consultation on EPA's approval action. Our efforts will include identification of any potential effects to endangered or threatened species from the new and revised WQS regulations. Completion of the consultation process is a high priority for EPA Region 10.

EPA has reviewed the new and revised elements of the December 1994 WQS regulations, as amended by the February 1996 WQS regulations pursuant to Section 303(c) of the Clean Water Act and the implementing regulations at 40 CFR Part 131. This letter constitutes our formal notification of the results of this review.

EPA approves all of the new and revised elements in Alaska's 1994 WQS as amended in 1996, subject to successful conclusion of ESA consultation, with the exception of the 3Q2 design flow for conventional and nontoxic substances. EPA disapproves Alaska's 3Q2 design flow mixing zones for conventional and non-toxic substances. A more detailed discussion of the basis for our approval and disapproval is enclosed.

Exhibit B

EPA's regulations require States and Tribes to adopt criteria based on EPA's criteria, EPA's criteria modified to reflect local conditions, or criteria established using scientifically defensible methods. Design flows for ambient water quality criteria (AWQC) are an integral component of criteria. Criteria are deemed to be protective based on certain duration and frequency assumptions. EPA's criteria rely on a 1B3 or 1Q10 for protection of aquatic life from acute effects and a 4B3 or 7Q10 for protection of aquatic life from chronic effects. Because a 3Q2 appears to be less protective than EPA's criteria, Alaska is required to submit an analysis demonstrating that a 3Q2 is sufficient to protect aquatic life in Alaska. EPA cannot approve a 3Q2 for conventional and non-toxic substances without a scientifically defensible analysis.

Alaska has 90 days to correct this deficiency to avoid a federal promulgation as required by section 303(c) of the Clean Water Act. One way Alaska could correct the deficiency is to provide EPA with a scientifically defensible analysis demonstrating that a 3Q2 is sufficient to protect aquatic life in Alaska. Suggestions for an approach are included in the enclosure. Alternatively, Alaska could modify the mixing zone regulations in Chapter 70 which specify design flows to be consistent with EPA's criteria.

One further point, as part of a triennial review package States are supposed to re-examine any water body that does not include the uses specified in section 101(a)(2) of the Clean Water Act (CWA) (40 CFR 131.6). This section establishes an interim water quality goal which provides for the protection and propagation of fish, shellfish and wildlife, and for recreation in and on the water (fishable/swimmable uses). The Alaska WQS regulations at 18 AAC 70.050(b) contain a number of waterbodies that do not have fishable/swimmable designated uses. Alaska initially performed use attainability analyses, consistent with 40 CFR 131.10(j), to determine appropriate designated uses for these waterbodies. 40 CFR § 131.20 indicates that any waterbody segment that does not include fishable/swimmable uses should be re-examined every three years to determine if new information is available indicating that fishable/swimmable uses are now attainable. This is a reminder that Alaska needs to confirm whether any new information exists that would necessitate a reexamination of the less than fishable/swimmable uses found in 18 AAC 70.050(b). This confirmation is needed, because without it Region 10 may consider a recommendation to the EPA Administrator to propose fishable/swimmable uses.

The review and revision of WQS is an iterative process depending on the foundation that has been laid during the previous triennial reviews. Based on our review of the 1994 and 1996 WQS regulations, EPA has identified a number of areas to be addressed during the next triennial review cycle. These areas for future refinement are discussed in more detail in the attached comments. The following paragraphs summarize the subject areas that EPA believes are important for Alaska to consider during the next triennial review cycle.

Alaska needs to identify implementation procedures for its antidegradation and mixing zone policies. This is particularly important for State issued permits and NPDES permits issued by EPA. In order for EPA to successfully implement the intent of Alaska's WQS, and to avoid confusion during the § 401 certification process, EPA needs additional clarification as to how Alaska intends to implement these State policies. Implementation procedures do not have to be adopted in regulation, they can be adequately addressed in State policy or guidance.

Alaska has added new narrative criteria for toxic substances to the 1994 and 1996 WQS regulations. Alaska needs to adopt or identify procedures for implementing the new and previously

adopted narrative criteria. The WQS Handbook contains general guidance for narrative criteria implementation procedures.

EPA applauds Alaska for addressing the potentially unique needs of threatened and endangered species in the State's mixing zone policy. However, EPA strongly encourages Alaska to adopt similar considerations for threatened and endangered species in the State's antidegradation policy. In particular, the presence of threatened and endangered species should be considered when determining whether or not to lower water quality.

EPA is initiating a national program to protect public health at our nation's beaches. EPA recently sent a letter to Alaska expressing concern with public health risks posed by contaminated bathing beaches. EPA strongly encourages Alaska to move to adopt EPA's 1986 updated bacteriological ambient water quality criteria during the next triennial review period.

Alaska should also consider more refined, biologically-based, aquatic life uses in future revisions. More precisely defined uses allow WQS to be implemented more effectively on a watershed basis, and provide a stronger scientific basis on which to select the most appropriate criteria.

A detailed summary of the rationale for our approval and disapproval is enclosed. If you have any questions concerning this letter and enclosure please contact me at (206) 553-0422 or have your staff contact Sally Brough, Water Quality Standards Coordinator, at (206) 553-1295.

Sincerely,

Philip G. Millam
Director
Office of Water

Enclosures

cc: Mike Conway, ADEC
Susan Braley, ADEC
Teresa Woods, FWS
Brad Smith, NMFS

Exhibit B

DETAILED DISCUSSION OF APPROVAL & DISAPPROVAL ISSUES

18 AAC 70.010 - General

EPA approves the wording changes found in the February 1996 version of 18 AAC 70.010(b) and (f). Section (b) has added references to the revised antidegradation policy and the new whole effluent toxicity limit provision. The changes in this section clarify how these provisions will be applied. The basis for our approval of these new and/or revised provisions are found in the following pages.

18 AAC 70.010(f) contains an exemption from WQS for treatment works and a definition for treatment works has been added at 18 AAC 70.990(55). The February 1996 WQS repealed major portions of the December 1994 WQS treatment works exemption. As a result, the exemption now applies only within the boundaries of treatment works authorized by the Department. Such treatment works, defined at 18 AAC 70.990(55), are excluded from the definition of waters of the United States at 40 CFR 122.2. EPA approves the treatment works provision found at 18 AAC 70.010(f) and the treatment works definition found at 18 AAC 70.990(55) in the February 1996 WQS.

18 AAC 70.011 - Antidegradation Policy

EPA's regulations require states to adopt an antidegradation policy consistent with 40 CFR § 131.12. The December 1994 WQS regulations did not contain a provision for Tier 1 waters [40 CFR 131.12(a)(1)] or Tier 3 - outstanding national resource waters [40 CFR 131.12(a)(3)]. The 1994 WQS regulations did contain a process for lowering water quality for high quality, tier 2, waterbodies but it was inconsistent with 40 CFR 131.12(a)(2). The 1996 WQS regulations have added Tier 1, Tier 3, additional provisions for lowering the water quality in tier 2 waters, and definitions for existing use and highest statutory and regulatory treatment requirements. EPA approves all new and revised regulatory language found in the February 1996 version of 18 AAC 70.011(a)(1), (a)(2), (a)(3), and (a)(4); 18 AAC 70.011(b) and (c); 18 AAC 70.015(a); and 18 AAC 70.990(20) and (25). Definition 18 AAC 70.990(20) has been adopted from 40 CFR 131.3 and definition 18 AAC 70.990(25) complies with the EPA interpretation of this phrase. With these revisions, the policy complies with the requirements of 40 CFR 131.12.

With the revisions EPA is approving, Alaska's antidegradation policy now meets the requirements of 40 CFR 131.12(a). Section 131.12(a) also requires States to identify implementation methods for their antidegradation policies. The reason for this is two-fold. First, such implementation methods encourage consistent application of the antidegradation policy and provide guidance to EPA where, as in Alaska, EPA issues NPDES permits. Second, by requiring States to identify implementation methods, section 131.12(a) deters States from adopting implementation methods which undercut or reinterpret the State's antidegradation policy so as to render it, in practice, inconsistent with the requirements of section 131.12(a). Were a State to do so, EPA has the authority to promulgate a federal antidegradation policy for waters in the State with sufficient detail to supersede the State's policy as implemented by the State.

Alaska has not yet adopted implementation methods for its revised antidegradation policy. EPA expects Alaska to do so during the next triennial review. In the meanwhile, EPA will, as needed, follow the antidegradation guidance in its 1993 WQS Handbook (Second Edition, 1993) in interpreting Alaska's antidegradation policy, and recommends that Alaska do the same.

As Alaska begins to work on antidegradation implementation methods we would like to reiterate EPA's position on existing use protection requirements. In EPA guidance, Questions and Answers on Antidegradation, August, 1985 (50 FR 34546) question 7 asks about the proper interpretation of the term "an existing use". The answer to question 7 states:

> An existing use can be established by demonstrating that fishing, swimming, or other uses have actually occurred since November 28, 1975, or that the water quality is suitable to allow such uses to occur (unless there are physical problems which prevent the use regardless of water quality). An example of the latter is an area where shellfish are propagating and surviving in a biologically suitable habitat and are available and suitable for harvesting. Such facts clearly establish that shellfish harvesting is an "existing" use, not one dependent on improvements in water quality.

In other words, establishing an existing use (past or present) is not dependent solely upon a demonstration that the use is being satisfied in a functional sense. As illustrated in this example, the existing use question should address both the functional use and the water quality. The intent of the regulation is to ensure the existing use and water quality necessary to support that use are maintained and protected.

18 AAC 70.020 - Protected Water Use Classes; Water Quality Criteria; and Water Quality Standards Table

At 18 AAC 70.020(b), minor wording changes have been incorporated to reflect the ability of the State to develop site-specific criteria. Revised 18 AAC 70.020(b) clarifies that water quality criteria apply except "as modified" under the site-specific criteria provision and the thermal discharge provision. Throughout 18 AAC 70.020(b)(1) and (2) WQS Table, the wording has been changed from "shall not" to "may not" to reflect the ability of the State to approve site-specific criteria (18 AAC 70.025 and 18 AAC 70.034). EPA approves these clarifications. EPA previously approved 18 AAC 70.025 and 18 AAC 70.034; 18 AAC 70.025 has been revised and the basis for our approval of the revision is found below.

Fecal Coliform Bacteria

Alaska revised its freshwater and marine contact recreation fecal coliform criteria from a 20 FC/100 ml (in the 1989 WQS) to 100 FC/100 ml in the 1994 and 1996 WQS. While less stringent than the 1989 WQS, the 100 FC/100 ml criterion is still more stringent than the fecal coliform criteria recommendation of 200 FC/100 ml recommended by EPA in its section 304(a)(1) bacteriological criteria documents prior to 1986.

Historically, fecal coliform bacteria were used as an indicator species for bacteria likely to cause gastroenteritis in humans. In 1986, EPA issued a revised bacteriological criteria document which recommended use of Escherichia coli and enterococci as indicator species for swimming uses, because statistics showed they better correlated with gastroenteritis rates from contact recreation (51 FR 8012 March 7, 1986). EPA's 1986 recommendation provided the same level of protection for contact recreation as intended by the previous fecal coliform criteria. EPA's Federal Register (FR) notice announcing the availability of the new bacteriological criteria document stated that, "EPA expects a gradual transition from the fecal coliform criteria to the new indicator bacteria by the States." (51 FR 8013)

Alaska's response to public comments, submitted to EPA as part of the review package for the Dec. 1994 WQS, states that it "will consider such criteria in the next Triennial Review." Given the stringency of the revised fecal coliform criteria and EPA's expectation that there could be a gradual transition, balanced against the length of time that has elapsed since issuance of the revised 304(a) criteria document, EPA approves Alaska's revised criteria, with the EPA recommendation that Alaska should adopt the more precise E. coli/enterococci indicators during its next triennial review.

EPA recently sent a letter to Alaska expressing agency concern with public health risks posed by contaminated bathing beaches (see enclosed letter from Robert Perciasepe to Michele Brown). EPA is initiating a national program to protect public health at our nation's beaches and a cornerstone of that effort is State adoption of EPA's 1986 updated bacteriological ambient water quality criteria.

Settleable Solids/Sediment

Alaska WQS have previously established "sediment" as a pollution category. The 1996 WQS revisions to this category deal with settleable solids, a component of sediment. The corresponding EPA guidance for sediment and settleable solids is found under the heading Solids (Suspended, Settleable) and Turbidity. EPA addresses the issue by defining several fractions. Alaska's revisions to this pollutant category only address one of the fractions but the Alaska regulations in total are equally protective as Federal criteria.

EPA criteria for Solids (Suspended, Settleable) and Turbidity do not specify a single analytical methodology for measuring the inorganic and organic particulate matter found and transported in the aquatic environment. The EPA criterion for this pollutant category references several definitions and methods; total suspended matter (suspended solids), settleable matter (settleable solids), fixed suspended matter (fixed suspended solids), and volatile suspended matter (volatile solids) found in the 1971 *Standard Methods for the Examination of Water and Wastewater*. The Federal criterion for "solids (suspended, settleable) and turbidity" states that for the protection of freshwater fish and other aquatic life "settleable and suspended solids should not reduce the depth of the compensation point for photosynthetic activity by more than 10 percent from the seasonally established norm for aquatic life."

Freshwater Uses

The 1989 Alaska WQS for this pollutant category for freshwater (FW) uses (water supply, (i) drinking culinary and food processing, and contact recreation) stated "no increase in concentration of sediment, including settleable solids, above natural conditions. (See Note 15)." Note 15 described, in detail, the volumetric Imhoff cone method for measuring settleable solids. Now the Alaska standard for these two FW use categories states, "no measurable increase in concentration of settleable solids above natural condition as measured by the volumetric Imhoff cone method (see note 15)." In the 1996 WQS the word "measurable" has been added before increase, sediment has been dropped, the reference to the Imhoff cone method has been added to the narrative statement, Note 15 remains the same, and a definition for settleable solids has been added to the definition section. The definition specifies that "solid material of organic or mineral origin that is transported or deposited from water" should be measured by the Imhoff cone method, method 2540(B) in *Standard Methods for the Examination of Water and Wastewater*, 18th edition (1992). The sediment standard for the FW uses described above has always specified the volumetric Imhoff cone method which measures settleable solids. Although the term "sediment" has been removed in the 1996 WQS, it makes no substantive difference because the method to measure settleable solids was previously specified for these use