6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

[EPA-HQ-OW-2013-0652; FRL 9902-37-OW]

ALASKAN SEAFOOD PROCESSING EFFLUENT LIMITATIONS GUIDELINES

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of availability of data and information.

SUMMARY: This notice makes available for public review and comment additional data and information gathered recently by the Environmental Protection Agency (EPA) from seafood processing facilities in Alaska and other publicly available sources. These data relate to the applicability of and discharge requirements for the Alaskan seafood subcategories of the Canned and Preserved Seafood Processing effluent limitations guidelines. EPA is providing preliminary results of analyses of the updated data and preliminary indications of how these results may be reflected in EPA's final response to petitions submitted in 1980 by certain members of the Alaskan seafood processing industry, and in amended effluent limitations guidelines applicable to certain Alaskan seafood processing discharges which EPA is considering whether to promulgate in final form.

DATES: Comments on this Notice, as well as any additional pertinent information and data must be received on or before **[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].** Comments and additional data and information postmarked after this date may not receive the same consideration.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-HQ-OW-2013-0652, by one of the following methods:

- www.regulations.gov: Follow the on-line instructions for submitting comments.

- Email: OW-Docket@epa.gov, Attention Docket ID No. EPA-HQ-OW-2013-0652.

- Mail: Water Docket, U.S. Environmental Protection Agency, Mail code: 4203M, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Attention Docket ID No. EPA-HQ-OW-2013-00652. Please include three copies.

- Hand Delivery: Water Docket, EPA Docket Center, EPA West Building Room 3334, 1301 Constitution Ave., NW, Washington, DC, Attention Docket ID No. EPA-HQ-OW-2013-00652. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information by calling 202-566-2426.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the Water Docket in the EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave, NW, Washington DC. The Public Reading Room is open from 8:30 am until 4:30 pm, EST, Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is (202) 566-1744, and the telephone number for the Office of Water is (202) 566-2426.

FOR FURTHER INFORMATION CONTACT: Lindsay Guzzo, Office of Water and Watersheds, NPDES Permit Unit (OWW-130), 1200 Sixth Avenue, Suite 900, Seattle, WA 98101; (206) 553-0268, guzzo.lindsay@epa.gov, or Donald F. Anderson, Engineering and Analysis Division (4303T), U.S. EPA, 1200 Pennsylvania Ave NW, Washington, DC 20460; (202)566–1021; anderson.donaldf@epa.gov.

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I. General Information

A. Does this Notice Apply to Me?

Entities potentially affected by this action include:

Category	Example of Regulated Entity	North American Industry Classification System Code
Industry	Seafood Canning; Fresh and Frozen Seafood Processing.	311711; 311712
States	Where they are the Control Authority.	221320

This section is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this notice. Other types of entities that do not meet the above criteria could also be affected. To determine whether your facility would be affected by this notice, you should carefully examine the applicability criteria listed in the Code of Federal Regulations, Chapter 40, Part 408, §408.40, §408.60, §408.90, §408.160, §408.170, §408.200, §408.290, §408.310, and the definitions in §408.10 of the regulation and detailed further in Section VI of this Notice of availability of data and information (hereinafter referred to as "NODA"). If you still have questions regarding the applicability of this action to a particular entity, consult one of the persons listed for technical information in the preceding section, **FOR FURTHER INFORMATION CONTACT**.

B. What Should I Consider as I Prepare my Comments for EPA?

Direct your comments to Docket ID No. EPA-HQ-OW-2013-0652. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses. **No confidential business information (CBI) should be sent by e-mail.**

C. Submitting CBI.

Do not submit CBI to EPA through www.regulations.gov or e-mail. Clearly mark the part or all of the information that you claim to be CBI. For CBI information in a disk or CD ROM that you mail to EPA, mark the outside of the disk or CD ROM as CBI and then identify electronically within the disk or CD ROM the specific information you are claiming as CBI. In addition to one

complete version of the comment that includes information claimed as CBI, you must submit a copy of the comment that does not contain the information claimed as CBI for inclusion in the public docket. Information so marked will not be disclosed except in accordance with procedures set forth in 40 CFR Part 2.

D. Tips for Preparing Your Comments.

When submitting comments, remember to:

- Identify the action by docket number and other identifying information (subject heading, Federal Register date and page number).
- Follow directions - The Agency may ask you to respond to specific questions or organize comments by referencing a Code of Federal Regulations (CFR) part or section number.
- Explain why you agree or disagree; suggest alternatives and substitute language for your requested changes.
- Describe any assumptions and provide any technical information and/or data that you used.
- If you estimate potential costs or burdens, explain how you arrived at your estimate in sufficient detail to allow it to be reproduced.
- Provide specific examples to illustrate your concerns, and suggest alternatives.
- Explain your views as clearly as possible, avoiding the use of profanity or personal threats.
- Make sure to submit your comments by the comment period deadline identified.

II. Purpose of this Notice

In 1980, members of the Alaskan seafood processing industry submitted two petitions to EPA. The first petition, submitted on May 7, 1980, requested that EPA modify the effluent

limitations guidelines (ELG) regulations for facilities located in five areas – Anchorage, Cordova, Juneau, Ketchikan, and Petersburg – which the ELGs classified as "non-remote." The petition presented preliminary material; the petitioners stated that they would submit additional material by June 16, 1980. On May 19, 1980, EPA suspended the applicability of ELGs for non-remote facilities in the five areas pending submission of additional new information and data by the industry. The suspension had the effect of designating these locations as remote for BPT for the facilities in the five locations. In a supplemental petition, dated June 16, 1980, the Petitioners again requested that EPA modify the regulations to remove Anchorage, Cordova, Juneau, Ketchikan, and Petersburg from the non-remote Alaska subcategories. Petitioners also presented additional material and supporting documentation for the May 7, 1980 petition. On January 9, 1981, EPA proposed to deny the petition to modify and amend the ELGs for Anchorage, Cordova, Ketchikan and Petersburg. EPA also proposed to grant the petition to remove Juneau from the non-remote subcategories. EPA stated that the May 1980 suspension would remain in effect until EPA made a final decision. The Agency has not made a final decision and the suspension has remained in effect since 1980.

EPA recently gathered new data and information and performed supporting analyses to update the 1981 proposal. In the current notice, EPA is making available to the public for review and comment the new data and information recently gathered along with supporting analyses. EPA presents further discussion of how the updated record material may affect a final response and amendment of the ELGs in Section **VII.** of this notice, below, **Updated Response to Petition and Amendment to Regulations Being Considered**.

The scope of EPA's action in the 1981 proposal and in this notice pertains only to the applicability of the effluent limitations guidelines for Alaskan subcategories in areas subject to

the 1980 petition, EPA's 1980 suspension, and EPA's 1981 proposal. EPA is not reconsidering the numerical effluent limitations either for remote or non-remote subcategories.

III. Background

The Clean Water Act (CWA, or the Act), 33 U.S.C. § 1251 *et seq.,* requires, among other things, that EPA establish effluent limitations guidelines for point sources, other than publicly owned treatment works (POTWs). The Act requires that the effluent limitations must be achieved not later than July 1, 1977, based on the application of the best practicable control technology currently available (BPT) as defined by the Administrator pursuant to Section 304(b) of the Act, 33 U.S.C. § 1314(b). See 33 U.S.C. § 1311(b)(1)(A). Section 304(b) requires the Administrator to publish regulations providing guidelines for effluent limitations and to revise those regulations as appropriate. 33 U.S.C. § 1314(b). The factors relating to the assessment of the BPT currently available to comply with Section 301(b)(1)(A):

> . . . shall include consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, and shall also take into account the age of equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate. 33 U.S.C. § 1314(b)(1)(B).

The Administrator published final effluent limitations guidelines (ELGs) for the Canned and Preserved Seafood Processing Point Source Category, 40 CFR Part 408, on June 26, 1974 (39 FR 23134), and December 1, 1975 (40 FR 55770). The seafood processing ELGs created two

groups of subcategories for seafood processing facilities in Alaska based on location: remote and non-remote.

For remote facilities, the effluent limitations guidelines representing best practicable control technology currently available (BPT) are based on grinding and discharge of the facility's effluent with a numerical effluent limitation on the size of particles discharged (not greater than ½ inch in any dimension). (Hereinafter referred to as "grinding"). Remote ELGs are applicable to seafood processors not located in a "population or processing center" (this term is explained below).

For non-remote facilities, the BPT limits are based on screening the wastewater to meet the mass-based effluent limitations for total suspended solids (TSS) and oil and grease, and an allowable range for pH. (Hereinafter this process is referred to as "screening"). Non-remote facilities are those located in "population or processing centers." The phrase "population or processing centers" intentionally was not defined in the regulations. Instead, the non-remote ELGs provide a non-exclusive list of locations, which include, but are not limited to, Anchorage, Cordova, Juneau, Ketchikan, Kodiak, and Petersburg. See 40 CFR 408.40, 408.60, 408.90, 408.162(b)(1), 408.165(a)(1). 408.172(b)(1), 408.175(a)(1), 408.202(b)(1), 408.205(a)(1), 408.292(b)(1), 408.295(a)(1), 408.312(b)(1), and 408.315(a)(1). In non-remote population or processing locations, the ELGs as originally promulgated are applicable to land-based processors. However, with the growth of floating processors in Alaskan waters, the ELGs also have been applied as necessary and appropriate in general permits issued to many of these floating processors since the mid-1980s. In 1980, the Association of Pacific Fisheries, a trade association representing processors in affected subcategories, challenged the EPA regulations in federal court. The petitioners argued that in evaluating BPT, EPA improperly ignored or

underestimated the benefits of grinding technology and overestimated the benefits of using screening technology. On February 4, 1980, the United States Court of Appeals for the Ninth Circuit upheld EPA's BPT regulations in all respects raised in the present petition. *Assn. of Pac. Fisheries v. EPA*, 615 F.2d 794 (9th Cir. 1980). The Court found that "[g]iven the limitations the Agency faced when it adopted industry standards for the first time . . . , there was a sufficient basis for promulgating the regulations as an initial matter." *Id.* at 809. The Court noted, however, that various avenues for reexamination of the regulations remained. These avenues included the possibility that the seafood processors might file a petition for reconsideration requesting that EPA consider whether new evidence offered by the Petitioners requires EPA to review its original actions. *Id*. at 812.

Subsequently, in a May 19, 1980 Federal Register notice, EPA announced that members of the Alaskan seafood processing industry had submitted a Petition for Suspension and Preliminary Petition for Modification requesting that EPA suspend the applicability of the ELGs for the 1980 salmon processing season (May 15, 1980 - October 15, 1980). 45 FR 32675 (May 19, 1980). EPA noted that processing plants in Anchorage, Cordova, Juneau, Ketchikan and Petersburg had not yet installed wastewater screening equipment necessary to comply with the effluent limitations guidelines applicable in these locations. *Id.* The ELGs for non-remote Alaskan seafood subcategories also include Kodiak as a non-remote location. However, Petitioners conceded that Kodiak was not included in the original or supplemental petition because the location met the statutory criteria for BPT based on screening. 45 FR 52411, 52412 (August 7, 1980).

The industry anticipated a record salmon catch for the 1980 season, creating concerns about the potential impact of non-compliance. If facilities in Anchorage, Cordova, Juneau,

Ketchikan and Petersburg were unable to operate due to non-compliance with the effluent limitations, the result would be an incomplete salmon harvest and a significant negative impact on the Alaskan economy. 45 FR 32675 (May 19, 1980). The petition also expressed the concern that costs of the BPT effluent limitations guidelines based on screening were out of proportion to effluent reduction benefits. 45 FR 52411, 52412-52416 (August 7, 1980).

EPA announced in the May 19, 1980 notice that the Agency would temporarily suspend the applicability of the non-remote ELGs for Anchorage, Cordova, Juneau, Ketchikan, and Petersburg to allow time for the Agency to consider all the new information relevant to the costs and effluent reduction benefits and to provide economic relief for the industry. (45 FR 32675, May 19, 1980). As a result, facilities in those locations became subject to the less stringent effluent limitations guidelines based upon grinding applicable in remote locations. The temporary suspension was to expire on October 15, 1980. The Petitioners agreed to submit a complete Petition for Modification by June 16, 1980. *Id.*

The Petitioners submitted the supplemental petition on June 16, 1980 requesting a new rulemaking to modify the Alaskan non-remote ELGs affecting seafood processing wastewater discharges in Anchorage, Cordova, Juneau, Ketchikan and Petersburg. In the supplemental petition to modify the regulations, the Petitioners maintained, in part, that the costs of screening associated with the non-remote ELGs were out of proportion to the effluent reduction benefits achieved and that screening was not a practicable technology. In a letter dated July 16, 1980, EPA asked the Petitioners to submit additional information; Petitioners submitted the additional information on August 15, 1980. On August 7, 1980, EPA published a notice of availability of the industry's supplemental petition to modify (published in its entirety). In the August 7, 1980 notice, EPA reiterated that the suspension would remain in effect until October 15, 1980. By that

date, EPA expected to either grant or deny the petition for modification 45 FR 52411 (August 7, 1980).

After reviewing all of the information submitted as well as other information available in the record, EPA published a proposed response and amendments to the ELGs for public comment in the Federal Register in January 1981. 46 FR 2544 (January 9, 1981). In the response, EPA proposed to deny the petition to remove the locations of Anchorage, Cordova, Ketchikan and Petersburg from the non-remote ELG subcategories, and to grant the petition to remove Juneau from the non-remote subcategories. EPA also proposed to include Ward Cove as part of Ketchikan in the list of non-remote locations. EPA's notice also indicated that it was considering, but not proposing at that time, the addition of Dutch Harbor and the Kenai Peninsula as non-remote processing centers. Last, EPA proposed to amend the existing new source performance standards (NSPS) in the non-remote subcategories to assure that new sources in locations classified as non-remote for purposes of BPT would also be subject to new source performance standards based on screening technology representing best available demonstrated control technology. *Id.*

EPA based its proposed response in part on an analysis of industry data submitted in 1980. EPA's preliminary conclusion was that the number and size of processors, the quantity of wastes generated, the length of the processing season, the proximity of facilities that could process the waste solids, along with other factors, made it possible for processors to meet a requirement based on screening. 46 FR 2546. (January 9, 1981). EPA noted that the petition failed to account adequately for the potential effluent reduction benefits of offshore disposal of screened fish wastes. EPA also noted that the use of by-product recovery facilities could result in lower total amounts of pollutants being discharged in the near-shore receiving waters and

screened wastes disposed offshore, and a reduced overall cost of waste disposal. See 46 FR 2545 – 2546 (January 9, 1981) for additional details on the contents of the petition, and at pages 2546 - 2547 for a summary of the basis for EPA's 1981 proposed response to the petition.

EPA received comments on the 1981 proposal including comments from the Petitioners and the Alaska Department of Environmental Conservation (ADEC). Major comments from the Petitioners and ADEC asserted that EPA was not responsive to the industry's petition and EPA's basis for the proposed response included a number of unsupported assertions as well as erroneous costs and underlying assumptions. Commenters also asserted that EPA underestimated the cost of the effluent limitations guidelines based on screening and underlying solids disposal technologies, including barging for offshore disposal of screened fish wastes and by-product recovery, and that the costs associated with screening and solids disposal technologies did not support the effluent reduction benefits. The Petitioners objected to relying on competitor's by-product recovery facilities, and ADEC stated that EPA should consider the assimilative capacity of receiving bodies of water and establish site-specific effluent limitations. Comments received are found in the public record [DCN 00252-00254].

In the 1981 proposal, EPA stated that because of the time required to obtain complete information from the Petitioners, review the petition and the public comments, and conduct the Agency's technical and economic analyses of the petition to modify, EPA was unable to respond to the petition by October 15, 1980, the date the temporary suspension was to end. EPA also stated that the temporary suspension would remain in effect until EPA made a final decision. 46 FR 2544 (January 9, 1981). EPA has not taken action on its 1981 proposal. As a result, since May 19, 1980, the seafood processors located in Anchorage, Cordova, Juneau, Ketchikan, and Petersburg have remained subject to the less stringent ELGs based on grinding.

In 2001, EPA Region 10 proposed the reissuance of the National Pollutant Discharge Elimination System (NPDES) General Permit for Alaskan Seafood Processors, NPDES Permit No. AK-G52-0000 (Permit). During the public comment period for the Permit, EPA received comments about the suspended ELGs and about technological advances since 1981 that provide reasonable alternatives to the discharge of seafood processing wastes. In the response to comments document associated with the Permit, EPA responded that it did not have sufficient information about the feasibility of alternative waste disposal or re-use options. EPA committed to update the information regarding the five locations addressed in the 1980 petitions, as well as other Alaskan locations, and to coordinate with the effluent limitations guidelines program to provide current information. EPA's recent efforts in 2010 to gather information and data (see below) are consistent with its 2001 commitments despite the delay in initiating the information gathering effort.

IV. Recent Data and Information Gathering

In late April 2010, EPA sent requests for information under Section 308 of the Clean Water Act to nine corporations operating seafood processing facilities in Alaska. These requests for information and data took the form of a questionnaire that included the following topics: general information about the corporation; technical information regarding fish processing operations and technologies for wastewater treatment and solids management (e.g., screening, offshore disposal of screened fish wastes, and by-product recovery); and operating costs and financial information. EPA selected nine corporations that reflect a broad range of pertinent information, such as fish species and processing methods, production, corporation size, and processing locations.

EPA received responses from all nine corporations. These corporations operate processing facilities in the processing locations covered in the original petition and EPA's 1981 proposal, as well as other locations in Alaska. The facilities included 39 land-based seafood processing plants. In order to provide further supplemental context for the information and data gathered through the questionnaire, in August 2010, EPA representatives also visited Alaska and gathered information and data from stakeholders. EPA representatives visited 18 processing plants in most processing locations covered in the petition, four by-product recovery plants, an industry association and technology research laboratory, ADEC, and a member of the academic community. Trip reports and related materials are included in the public record (DCN 00044-00063, DCN 00075-00077, DCN 00081-00091, DCN 00255-00256, DCN 00495, DCN 00502-00504). EPA reviewed annual reports submitted to EPA (through 2008) and ADEC (2009 - 2010) as required in the Permit. EPA also gathered supplementary information and data from a range of other public sources. These include industry Internet web sites and open literature, technical and cost information from equipment vendors, pictorial material, and comments from the general public and tribal interests about the effects of seafood processing wastewater discharges. The findings of EPA's review are summarized in this Notice and in the public record (DCN 00409-00411).

V. Summary of What EPA Learned from New Data, Analyses, and Findings

Section 304(b)(1)(B) states that factors relating to the assessment of BPT "shall include consideration of the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application, and shall also take into account the age of the equipment and facilities involved, the process employed, the engineering aspects of the application of various types of control techniques, process changes, non-water quality environmental impact (including energy requirements), and such other factors as the Administrator deems appropriate." The information and data collected in 2010 helps inform EPA as it considers the factors above in the BPT assessment.

A. Updated Industry Description

The Alaskan seafood processing industry is a very important part of the United States seafood processing industry. The United States is the fifth largest seafood processor in the world, accounting for approximately four million tons of fish per year. The Pacific Coast region (including the states of Alaska, Washington, Oregon, and California) of the United States is the nation's top fish-producing region. Within that region, Alaska is the largest producer, and Alaskan processors contribute approximately 80 and 50 percent of the Pacific Coast region and the total U.S. fish catch (landings), respectively (DCN 00412). The five major fisheries in Alaska are 1) salmon (e.g., coho, sockeye), 2) halibut, 3) herring, 4) shellfish (e.g., king and tanner crab), and 5) groundfish (e.g., pollock, flounder, haddock, cod). Salmon is the primary fishery and seafood processed and accounts for more than 90 percent of all fisheries and seafood processed for the non-remote processing locations addressed in the petition and this notice, with the exception of Dutch Harbor where pollock is the primary fishery and seafood processed.

The number of land-based seafood canning establishments in Alaska to which these ELGs apply has decreased substantially over the past decade, with production being concentrated

in fewer, larger facilities. At the same time, the number of fresh and frozen processors has grown somewhat since 1997, and the size of those establishments, on average, has become larger (based on average employment). Thus, overall, the total number of land-based seafood processing facilities has declined only slightly, while the processing has shifted from canning to fresh and frozen products. In addition, fresh and frozen processing facilities have become larger over the years (U.S. Census, 1997; 2007). A small number of parent corporations own these facilities.

There are now 14 land-based processing facilities in the non-remote processing locations addressed in the petition and this notice. Another 16 facilities are located in the three additional processing locations that EPA is considering classifying as non-remote locations, as discussed in section **VIII. Solicitation of Comments** of this notice. Additional land-based processing facilities may be included in EPA's analyses for any final rulemaking should other locations be added to the list of "non-remote" processing locations. The number of operating and permitted facilities and their ownership changes with some regularity due to changes in the fisheries, markets, local circumstances, and business considerations.

Even though the size of the processing facilities has grown over the past decades, most of the corporations engaged in seafood processing are considered "small businesses" as defined by the Small Business Administration, based on average employment. EPA estimates that six small businesses in the locations covered by the petitions would potentially be affected as described in this notice.

Fish products can be separated from wastes in processes ranging in complexity from traditional hand labor to fully automated mechanical separation. At the time of the 1981 proposal, the breakdown in the types of fish products produced for human consumption included 77 percent fresh or frozen, 15 percent canned, and two percent cured. Other products produced

included bait - and from by-product recovery - animal feed (3 percent), and fish meal and fish oil (3 percent)(DCN 00412). Since the 1981 proposal, the by-product market and technologies have matured and grown substantially, thus enabling greater capture and utilization of valuable natural resources. For example, processors now are producing nutraceuticals from salmon and pollock used as dietary supplements, such as Omega-3 fatty acids. By-product recovery is a discretionary alternative solids management method that processors may use to replace or reduce offshore solids disposal. Section **V. C. Updated Wastewater Treatment and Disposal** of this notice discusses by-product recovery in more detail.

B. Continued Impacts on Humans and the Environment

The primary concern with land-based discharges of seafood processing wastewater is the continuing impact of waste piles and the formation of new piles at the bottom of receiving waters. EPA documented numerous human health and environmental impacts in its review of the updated information. These impacts include the difficulty of tribal and subsistence fishermen to successfully operate in affected areas, floating solids and scum, and periodic gas eruptions from waste piles sending large mats of waste to the surface and releasing toxic noxious gases. These impacts also include negative effects on tourism, local residents, and recreational activities from associated nuisances and aesthetics. At certain times and in certain locations, waste piles cause interference with and dangerous hazards to safe vessel and aircraft operations. EPA also notes the potential for physical threats to children and adults from fish wastes deposited on beaches where animals (such as dogs and bears) are attracted to the waste. Processing operations have contributed to these impacts in Ketchikan, Sitka, and Dutch Harbor, and other locations.

Fish processing waste piles from land-based facility discharges cover large areas of the seafloor and contain large quantities of solids that negatively affect receiving water quality.

These piles range in area, sometimes covering tens of acres. They can grow to many feet thick. (DCN 00201). The waste piles smother benthic (bottom) communities, deplete dissolved oxygen, and cause other harmful impacts on the aquatic ecosystem. In some cases, large waste piles at outfalls (both active and inactive) do not dissipate, even with flushing from tides and strong channel currents. Where discharges have stopped, fish waste piles and their effects can remain for 10 years or more. Moreover, the ADEC report entitled: "Alaska's Final 2010 Integrated Water Quality Monitoring and Assessment Report, July 15, 2010," indicates some of Alaska's coastal zone waters have become impaired waters due to residues from seafood processing discharges (DCN 00457), generally at pg. 3, and specifics on individual locations in various Appendices). Requiring BPT based on screening will substantially mitigate the continuing impacts of existing underwater piles of seafood waste that have been occurring over the past 30 years, prevent formation of new piles, and will have a positive long-term impact on the affected communities in these areas.

C. Updated Information on Wastewater Treatment and Solids Disposal

Under the Clean Water Act, individual point sources are free to achieve effluent limitations promulgated in ELGs and implemented in NPDES permits by any lawful means. EPA bases its effluent limitations guidelines and standards on a particular technology or set of technologies but does not require adoption of any particular technology to comply with ELGs. Once the limitations are established, the individual facilities may use any technology or set of technologies to meet the effluent limitations guidelines and standards. In addition, individual facilities can consider opportunities to work together and collectively take advantage of economies of scale.

As stated above, existing regulations as promulgated are based on two basic wastewater treatment technologies: (1) for remote locations, grinding and discharge in the facility effluent with a numerical effluent limitation on the size of particles discharged (not greater than ½ inch in any dimension), and (2) for non-remote locations, screening and disposal of the screened solids offshore with mass-based effluent limitations for total suspended solids (TSS) and oil and grease, and an allowable range for pH. Based on the recent data collection, EPA did not identify any new technologies in use for treating Alaskan seafood processing wastewaters. EPA also found that both of these technologies remain feasible and applicable for addressing Alaskan seafood discharges. EPA's review of the recently updated record and observations from on-site visits reaffirms that these technologies are available regardless of the age of seafood processing equipment or facility or the type of process employed. For example, existing facilities can readily install screens and related facilities, while new sources also can install screens and related facilities prior to the facility initiating wastewater discharge. No complex engineering or internal process changes are required to screen wastes or to comply with the ELG for non-remote locations or to dispose of the solids.

By-product recovery has emerged in the past three decades as a practicable discretionary option for facilities to capture the screened solids, limit these wastes, and reduce waste management costs by more completely utilizing an important natural resource. Based on a review of the record, EPA found that facilities in processing locations generally continue to have access to more reliable and cost effective ways to manage screened seafood processing wastes, including by-product recovery, than do facilities located in isolated areas. In addition, and as noted in section **VIII. Solicitation of Comments**, EPA found that seafood processors in Dutch Harbor, Kenai Peninsula, and Sitka also have opportunities for achieving economies of scale,

including the discretionary alternative of by-product recovery. In particular, processors in Dutch Harbor have been using wastewater screening technology and operating individual by-product recovery facilities since approximately 1997. Among the existing by-product recovery opportunities available include the Kenai Peninsula, Cordova, a by-product recovery facility proposed for Sitka, and another facility being constructed in Naknek.

At the time of the 1981 proposal and as expressed in comments on the proposal, by-product recovery was not widely available because few by-product recovery facilities existed. Processors did not consider collective by-product recovery facilities (i.e., "sharing" by-product recovery facilities located in the same geographic area but owned by a competitor) a viable option at that time because of the competitive nature of the industry. Based on recent information and data, EPA found that by-product recovery technologies and markets have matured since 1981 and seafood processors have been successfully operating by-product recovery facilities. Collective by-product recovery facilities have been operating for many years in Kodiak, and in other processing locations in more recent years (e.g., Cordova, Ketchikan). These by-product recovery facilities have been able to take advantage of economies of scale, which contribute both to increasing total utilization of the natural resource purchased from fishermen and to increasing total revenues to the processors from the sale of by-products, such as fish oil, fish meal, and nutraceuticals (e.g., refined fish oil dietary supplements containing Omega-3 fatty acids). While the revenues may not consistently result in profits in every case, EPA's analysis shows that with a well-established market for fish oil and fish meal (Bimbo, 2008), the potential revenues generated from the sale of these by-products will offset the overall cost of wastewater treatment and waste solids disposal and maximize the utilization of valuable natural resources. Furthermore, collective by-product recovery facilities employ a modest number of trained and

skilled professionals. These processors, the by-product recovery facilities, and their employees pay taxes to the State and local communities, thus further contributing to the State and local economies. In light of these benefits, EPA concludes that any additional economic activity generated by by-product processing and sales could contribute to greater employment stability in the coastal Alaskan communities where seafood processing facilities and their related businesses are critical to local economies.

No internal process changes are required at seafood processing facilities to produce commodity fish oil and fish meal. Some by-product recovery facilities produce food grade fish oils as intermediate products that are further processed at other locations into nutraceuticals for human consumption. Processors contributing wastes to by-product recovery facilities to produce food-grade fish oils have found acceptable and affordable equipment and methods to maintain sanitation requirements to keep fish wastes off processing plant floors, and maintain proper temperature in insulated containers ("totes") to prevent spoilage during storage and transport to collective by-product recovery facilities. For example, as observed during the recent EPA visits to Alaska and from other information gathered, processors in Ketchikan and Cordova as well as in Kenai Landing have demonstrated that the necessary equipment and operating methods, such as careful attention to fish processing operations, are available and feasible (DCN 00054, 00060,00076,00084,00085; DCN 00049, 00063, 00088, 00089, 00091; DCN 00044). However, while processors have demonstrated the feasibility of food grade fish oils production, EPA did not assume the use of these technologies in developing costs for collective by-product recovery facilities. Where EPA estimated costs for by-product recovery, it assumed that processors would produce only commodity fish meal and oil.

VI. Revised Cost and Economic Impact Analyses

A. Cost and Pollutant Reduction Analysis

This section summarizes EPA's approach for estimating compliance costs, and a support document entitled Report of Quality Activities Supporting Alaska Seafood Processing Cost Estimates April 2011 (DCN 00499) provides detailed information on the basis for these cost estimates. Based on the recent data collection, all of the facilities that are the subject of this notice in each of the processing locations are, at a minimum, already using grinding technologies, with a few exceptions described below. EPA examined current practice and incremental compliance costs for any facilities not currently using screening to estimate the costs of subjecting these facilities to the ELGs based on screening. All cost estimates reflect 2010 dollars and represent the cost of purchasing and installing equipment and control technologies, annual operating and maintenance costs, and associated monitoring and reporting requirements. This is the same general approach used in developing the 1981 proposal.

EPA first established existing conditions (i.e., baseline) for each facility based on its responses to the questionnaire. EPA then determined what upgrades or changes, if any, would be required to comply with the limitations based on screening for processors in each of the processing locations, except for Anchorage where there are currently no direct dischargers. See section **VII. Updated Response to Petition and Amendment to Regulations Being Considered, C. Location-by-Location Analysis** of this notice for further discussion of Anchorage. Specifically, as appropriate, EPA estimated compliance costs for facilities to install and operate screens, to transport screened solids by an appropriate vessel for offshore disposal, and to perform compliance monitoring and reporting. Aggregate cost estimates, and other pertinent and more detailed considerations important to developing costs, are presented in the public record (DCN 00410, 00499). EPA developed costs for individual processors in each of the

processing locations based upon information and data contained in responses to the questionnaire. For those facilities for which there were no questionnaire responses, EPA modeled costs. Specifically, EPA used cost estimates developed from the processing facility most closely resembling the facility being modeled (e.g., size based on total production, etc.) for which questionnaire responses and associated data and information were available. EPA used the same model plant approach for processors located in the Kenai Peninsula and Sitka. EPA determined there are no incremental costs for Dutch Harbor because all three processors in Dutch Harbor already use screening technology and individual by-product recovery as a primary solids management alternative to offshore disposal of screened fish wastes.

EPA used cost data from individual processing facilities in concert with cost information gathered from vendors and other publicly available sources (e.g., open literature, Internet web sites, etc.) to develop costs for individual components of screening technology (e.g., waste sumps, pumps, rotary drum screens, appropriately sized vessels for transporting screened solids for offshore disposal of screened fish wastes, and monitoring). To develop facility costs, EPA assumed, in absence of other information, based on recent site visits and other information in the record that: 1) the 2010 baseline technology was the technology basis (grinding), 2) facilities would be discharging through existing outfalls, and 3) facilities would monitor particle size and the zone of deposit (i.e., seafood waste pile). EPA notes that some processors (e.g., located in Cordova and Ketchikan) access a by-product recovery facility and thus employ screening to separate solids from the wastewater; EPA considered screening technology as the 2010 baseline for these facilities.

In developing screening costs for facilities where grinding is the baseline, EPA used the following approach to estimate costs. First, based on site visits, questionnaire responses, and

other information in the record, EPA assumed that facilities would install equipment to screen waste solids from the wastewater stream using a rotary drum screen and would use their existing grinder to allow pumping of waste to a vessel of appropriate size for hauling to offshore disposal. Second, EPA assumed that the vessel could be a bow picker, work vessel, fishing scow or tender owned and operated by each processor. EPA also included costs for monitoring screened wastewater for Total Suspended Solids (TSS), oil and grease (O & G), pH, and measuring the volume of wastewater discharged through an existing outfall. Tables A and B below present the resulting costs and effluent reduction benefits (see section **VI.B. Economic Impact Analysis** of this notice).

EPA presents aggregate costs as ranges in order to prevent indirect disclosure of information and data claimed to be Confidential Business Information (CBI). This is necessary because many processors have claimed as CBI essential components of these analyses, notably financial data. Moreover, in most processing locations there are very few processors and thus CBI may be deduced and revealed indirectly. Therefore, much of the detailed cost data developed by EPA for individual processors are protected as CBI. See Costs and Economic Impact Analysis for Alaska Seafood Processors, DCN 00410; and further discussion below.

EPA also developed costs for collective by-product recovery. While it is not a requirement for complying with the ELGs, it is a practicable discretionary alternative for solids disposal. This alternative is environmentally preferable in part because it results in recovery of the waste rather than disposal. In processing locations where existing by-product recovery facility capacity was not sufficient to accept all processing wastes, EPA developed costs for a new by-product recovery facility of a size sufficient to accommodate wastes generated by contributing processors in that location. EPA assumed that contributing processors in collective

facilities share operating costs and revenues proportionally according to the amount of waste generated and processed by the collective by-product recovery facility. EPA did not consider production of food grade products such as nutraceuticals for purposes of this analysis. Further discussion of methods for developing costs for this discretionary solids management alternative is presented in the public record, in Report of Quality Activities Supporting Alaska Seafood Processing Cost Estimates (DCN 00499). Resulting aggregate costs are presented in Costs and Economic Impact Analysis for Alaskan Seafood Processors (DCN 00410).

EPA developed estimates of the incremental effluent reduction benefits (pounds of pollutants removed) for screening versus grinding. Typically, EPA estimates the discharges of pollutants at baseline (in this case, grinding) and compares them to discharges assuming the technology basis is installed (in this case screening). EPA could not use its standard approach for developing reductions in TSS and oil and grease because it does not have baseline information on TSS and oil and grease discharges. Facilities that employ grinding do not monitor for TSS and oil and grease. Rather, they collect data on the mass of incoming raw product and the mass of the final product. As a result, for today's notice and in the analysis supporting EPA's 1981 proposed petition response, EPA used total waste generated (i.e., difference between the mass of incoming product minus the mass of the final product) as a proxy for the pounds of pollutants that would no longer be discharged in the facility effluent with the addition of screening. This is appropriate because, as indicated above, total waste generated is reported utilizing mass balance data regularly collected by processors for weights of incoming raw product and final products. Moreover, available mass balance data also show that facilities using screening technology achieve waste removals in excess of 90 percent.

EPA estimated total loads of waste generated for individual processing facilities using data provided by processors in NPDES permit annual reports and reported in questionnaire responses. Processors report tons of waste generated by subtracting the tons of final product from the tons of raw product. Raw and final product weight data are extensive and reliable. Raw product weights are derived from carefully weighed incoming fish landings, which serve as the basis for paying fishermen for their catch. These fish landing weights are also reported to Alaska state agencies to determine state taxes. Final products are weighed carefully for packaging and related purposes.

B. Economic Impact Analysis

EPA has completed an updated economic impact analysis associated with effluent limitations for non-remote dischargers based on the updated costs of screening and offshore solids disposal. EPA summed the annualized costs of capital (i.e., amortized capital), annual operating and maintenance costs, and annual monitoring costs for each facility to develop total annualized costs, which it then used as inputs to the impact analysis. The impacts of these costs are discussed below. In a similar manner, EPA has also analyzed the total costs and impacts of operating and, as appropriate in certain processing locations, installing new collective by-product recovery facilities as a discretionary solids management alternative. Summaries of these total costs and economic impacts are included in the public record (DCN 00410).

EPA's updated economic impact analysis used a discounted cash flow model routinely employed in the effluent guidelines program to determine the net present value of cash flow for individual processing facilities. EPA also used the Altman's Z′ analysis, a financial analysis tool routinely employed by investors and financial analysts and in the effluent guidelines program, for assessing the financial health of privately held owner firms operating in the same locations.

EPA used these facility and firm financial models to determine the financial health and viability of facilities and owner firms in two cases: 1) a baseline calculation using the existing permit conditions generally based on grinding in all processing locations (with exceptions noted earlier), and 2) a calculation using the more stringent permit conditions based on screening and offshore screened fish waste solids disposal. EPA completed these analyses for facilities located in the processing locations included in the petition (Cordova, Juneau, Ketchikan, and Petersburg) (see section **VII. Updated Response to Petition and Amendment to Regulations Being Considered, C. Location-by-Location Analysis** of this notice for further discussion of Anchorage). These analyses are similar to the analyses used in EPA's 1981 proposed response to the petitions. EPA's approach is more fully described in the report, Costs and Economic Impact Analysis for Alaska Seafood Processors (DCN 00410).

EPA used data in its analyses from responses to the questionnaire and from site visits, augmented with publicly available information where appropriate[1]. For the small number of facilities for which it had no questionnaire responses or other usable data, EPA modeled the potential impacts using information for similar processing facilities for which it had questionnaire responses. EPA concluded this approach is reasonable because the selected questionnaire facilities resemble the facilities being modeled (e.g., size based on total production, species of fish processed, similarity of corporation size). For the modeled facilities, EPA extrapolated the impact analysis results to assess qualitatively potential impacts for the few non-surveyed facilities and firms in these four processing locations. EPA also used the same approach to analyze qualitatively the impacts on facilities in two of the three additional locations

[1] EPA has not attempted to correlate these results with any of the original Petitioners' facilities because some have been acquired by other companies or have been closed, and those remaining are likely to be significantly different than they were more than 30 years ago.

it is considering for inclusion as non-remote; specifically the Kenai Peninsula and Sitka. Where EPA had a questionnaire response for a facility, it used that data. Where EPA did not have a questionnaire response, it modeled the impacts based on results from a similar facility for which EPA received questionnaire responses. These non-surveyed facilities were an even smaller portion of all processors in these two additional locations.

EPA did not find additional costs were necessary for Dutch Harbor, the third additional location that EPA is considering for inclusion in the non-remote subcategory, because all three processors located in Dutch Harbor use screening technology and individual by-product recovery for solids management. Accordingly, EPA does not expect incremental impacts for any facilities in Dutch Harbor.

This cost and economic analysis for processing locations included in the petition and the additional locations EPA is considering for inclusion in the non-remote subcategories indicates that total annualized costs are low for each facility. In turn, cash flow at facilities and key financial indicators (Altman's Z' scores) used in the firm analysis changed only minimally between baseline (compliance with effluent limitations generally based on grinding, with a few exceptions noted previously) and screening with offshore disposal of screened fish wastes. Therefore, EPA does not project any closures of processing plants or owner firm failures for facilities located in the processing locations included in the petition, or two of the additional three locations the Agency is considering reclassifying as non-remote. Again, EPA did not project costs or any economic impact analyses for Dutch Harbor because all facilities in that location already have screening with by-product recovery, so EPA does not project facility impacts or firm failures.

Similarly, the total annualized cost of screening using collective by-product recovery instead of offshore disposal to individual processors and owner firms was not projected to result in an unacceptable adverse economic impact. This is true in part because collective by-product recovery can achieve economies of scale, which also may add significant revenue from the sale of by-products (commodity fish meal and fish oil). For processors located where by-product recovery facilities with available capacity currently operate, annual operating costs to meet the screening requirements are lower when the processor uses collective by-product recovery rather than individual offshore disposal of screened fish wastes. The details of the analysis are presented in Costs and Economic Impact Analysis for Alaska Seafood Processors (DCN 00410). For locations where processors may elect to construct a new by-product recovery facility, the total annualized costs are higher than for a location where a facility has already been built because the costs include loan amortization in addition to operating costs. Nonetheless, some processors have constructed and operated collective by-product recovery facilities for many years – for example, the Kodiak facility has been operating under this scheme since the 1970s.

EPA also considered the impact of additional costs of screening and offshore disposal of screened fish wastes on small businesses. EPA found these total annualized costs were less than 0.5 percent of revenues for all small surveyed firms in the analysis. Similarly, EPA concludes that all of the small businesses in the petitioning non-remote locations and additional non-petitioning locations of interest will have total annualized costs less than 0.5 percent of revenues. EPA also analyzed the impact of the costs of screening and offshore disposal of screened fish wastes on new facilities and found that there would be no barriers to entry because these costs are very small in relation to the capital costs of a new processing facility or incremental to any other existing barriers to entry. EPA reached this conclusion because the capital cost for

additional screening equipment and related facilities would be well within the usual engineering contingencies built into new facility construction cost estimates. Furthermore, the cost to design-in equipment is usually less expensive at new facilities than the costs to retrofit. (See Costs and Impact Analysis for Alaska Seafood Processors (DCN 00410).

Results of the costs, pollutant mass removals, and economic impact analyses are summarized in the following two tables. Costs are presented in 2010 dollars. Table A presents the results for facilities in the processing locations included in the petition and Table B presents the results for the additional locations EPA is considering reclassifying as non-remote.

Table A[1] – Results for Processing Locations Included in Petition

Location	Number of Plants [2]	Total Annualized Cost per Plant - million $	Removals per plant - lbs/yr [3] (millions)	$/lb removed	Economic Impact [4]
Anchorage	0	< 0.10	1 - 12	0.02 - 0.04	N/A
Cordova	4				No
Juneau	2				No
Ketchikan	5				No
Petersburg	3				No
Total - all Plants	**14**	**<$0.75**	**<30**	**$0.03**	**-**

[1] - Tabulation of costs and waste removals per plant, and cost per pound removed expressed as ranges to prevent indirect disclosure of data claimed as Confidential Business Information (CBI).
[2] - Number of plants currently operating. No processors with direct dischargers currently operate in Anchorage; therefore, they have no costs or removals. A few processors are discharging to publicly owned treatment works (POTW).
[3] - Pounds of fish processing waste removed.
[4] - Possible processing plants closures or firm failures.

Table B[1]· Results for Additional Non-Petitioning Locations

Location	Number of Plants [2]	Total Annualized Cost per Plant - million $	Removals per plant - lbs/yr [3] (millions)	$/lb removed	Economic Impact [4]
Dutch Harbor	3	<0.10	1 - 3	0.04 - 0.07	No
Kenai Peninsula	10				No
Sitka	3				No
Total - all Plants	**16**	**<$0.90**	**<15**	**$0.06**	**-**

[1] - Tabulation of costs and waste removals per plant, and cost per pound removed expressed as ranges to prevent indirect disclosure of data claimed as Confidential Business Information (CBI).
[2] - Number of plants currently operating. In Dutch Harbor, all three processors that have operated consistently have screening and individual by-product recovery in place and thus comply with effluent limitations based upon screening. Three additional processors have operated only intermittently in Dutch Harbor. Thus, no costs or removals were developed and no economic analyses were performed for Dutch Harbor.
[3] - Pounds of fish processing waste removed.
[4] - Possible processing plants closures or firm failures.

As represented by Tables A and B, EPA found the cost of screening and offshore disposal of screened waste solids resulted in no facility or firm failures at any of the petitioning processing locations or at any of the additional non-petitioning locations EPA is considering reclassifying as non-remote. EPA also found that the range of costs per pound of waste removed were very low.

The Agency solicits comments and additional data that may be available related to EPA's recent data and information collection and EPA's analyses of estimated costs and projected economic impacts, as summarized above and in Tables A and B. The data summarized in Tables A and B above are discussed further in Section **VII. Updated Response to Petition and Amendment to Regulations Being Considered, C. Location-by-Location Analysis**, and in Section **VIII., Solicitation of Comments** of this notice, below.

C. Costs vs. Pollutant Reductions, Other Factors

EPA estimates the updated total annualized costs for Alaska seafood processing plants to implement individual screening and offshore disposal of screened fish wastes range, on average, to be from $0.02 to $0.07 per pound of seafood processing waste removed. These costs of achieving BPT effluent limitations can be compared with other industries' costs of achieving BPT effluent limitations to provide a perspective on their reasonableness. In a portion of the fruits and vegetables processing industry, the average cost of wastewater treatment to meet BPT effluent limitations for a group of model plants was $0.29 per pound of conventional pollutants removed, with a range of $0.09 to $0.55 per pound. In the corn wet milling subcategory of the grain milling industry, the cost for a medium-sized model plant was $0.41 per pound of conventional pollutants removed. For the cane sugar refining industry, a small model plant incurred a cost of $0.41 per pound of conventional pollutants removed. EPA notes that in all of these examples, the values were adjusted to 2010 dollars. This comparison demonstrates that the costs to achieve screening and offshore disposal of screened fish wastes at all locations considered today are less than for many other food processing industries for which EPA has promulgated ELGs, and therefore are reasonable. Section 304(b)(1)(B) states that factors relating to the assessment of BPT "shall include consideration of the total costs of application of the technology in relation to the effluent reduction benefits achieved and . . . such other factors as the Administrator deems appropriate." 33 U.S.C. § 1314(b)(1)(B).

Additionally, a similar comparison of costs to pollutant reductions for screening and by-product recovery demonstrates the costs in relation to the removals are reasonable. EPA estimates the same reduction under either solids handling approach (i.e. off shore disposal of

screened fish wastes or by-product recovery). However, where facilities employ by-product recovery, reduced discharge of pollutants offshore is also an effluent reduction benefit.

Clearly, a reduction in waste discharges associated with screening versus grinding at these locations will benefit the communities in the surrounding areas and the environment. Section **V. B.** above describes the continuing negative impact on people and the environment associated with these discharges over the last 30 years and at present. Requiring ELGs based on screening will result in mitigating impacts from existing waste piles and prevent the formation of new waste piles. EPA concludes there will be significant improvements in water quality, increased opportunities for tribal fishing and recreational activities, improved aesthetics for the local population and tourists, and reduced interference with safe vessel and aircraft operations.

The Agency also considered non-water quality impacts for screening and offshore disposal of screened fish wastes, as well as for by-product recovery. While energy costs (e.g., fossil fuel) have increased in recent years, the largest factor in offshore disposal costs is labor to operate the vessels that transport and dispose of the waste through the entire processing season. As described above, the total costs for screening and offshore disposal of screened fish wastes are low, and thus, the associated energy consumption and costs are also low. Furthermore, should by-product recovery be employed as a discretionary solids management alternative, use of a vessel to dispose of wastes offshore is greatly reduced because only a small amount of the total waste generated during the season is hauled offshore for disposal[2].

In addition, the seafood processing industry has used fish oil as a supplemental fuel to generate electric power to operate the processing facilities. In some locations where a utility power grid connection is not available, fossil fuel is needed for on-site generation of all electric

[2] Information acquired primarily from industry sources indicates the non-recoverable portion of total annual waste generation is approximately five percent.

power required for processing operations. In these cases, fish oil produced from by-product recovery offers the potential to substantially reduce fossil fuel (e.g., diesel) usage and costs. The Alaska Energy Authority (AEA) notes in its Renewable Energy Atlas for 2009 and 2011 that many coastal locations offer the opportunity to use biomass (e.g., fish waste and the oil produced from it) as an important supplemental source of fuel to replace a portion of the fossil fuels used for energy generation. For example, the fish meal plant at Kodiak uses fish oil produced from pollock waste for a significant portion of its fuel needs. Also, the AEA reports that one of the large processors in Dutch Harbor uses fish oil from its by-product recovery facility to replace approximately one half of the diesel fuel it would normally have transported to the site and consumed for power generation to operate the seafood processing plant. See http://www.akenergyauthority.org/programsalternativebiomass.html. EPA has considered the energy costs associated with screening and disposal of the screened solids and found them to be acceptable for all of these reasons.

Screening and offshore disposal of screened fish wastes or screening and by-product recovery, rather than grinding the wastes, should have no significant incremental adverse air quality impact. Rather, it should lead to reduced releases of noxious gas associated with waste piles. Further, as explained above, because fuel consumption for either offshore disposal or by-product recovery is quite low, any incremental air emissions associated with fuel usage would be equally low. Also, currently operating facilities have demonstrated that any odor problems that may be associated with the operation of a by-product recovery facility (e.g., meal drier exhaust) can be minimized by proper plant location, use of appropriate air pollution control equipment (e.g., wet venturi air scrubbers), and diligent operating procedures. Thus, EPA concludes that the

non-water quality environmental impact of screening and solids management employing by-product recovery on air quality would be acceptable.

Finally, the ELGs for seafood processors in all other states, except for those affected by the suspension in Alaska, are based on screening. Thus, seafood processors affected by the ELG suspension, which process approximately 50 percent of the total U.S fish landings, have had a cost advantage within this industry for at least 30 years while continuing to cause substantial adverse impacts to humans and the environment in many coastal communities in Alaska.

VII. Updated Response to Petition and Amendment to Regulations Being Considered

A. Summary

In the 1981 proposal, EPA proposed denying the industry petition for Anchorage, Cordova, Ketchikan, and Petersburg and proposed granting the petition for Juneau. EPA is again considering denying the petition for Anchorage, Cordova, Ketchikan, and Petersburg, and is considering denying the petition for Juneau. All five areas would remain non-remote for BPT purposes and effluent limitations would be based on screening. The solids disposal method, either offshore disposal of screened fish wastes, or collective by-product recovery, or any other means that is developed in the future, is selected at the discretion of each processor.

As EPA considered reinstating the original ELGs for all five cities named in the petition, the Agency again examined the options for screening and disposal of the screened fish waste solids. EPA's basis for classifying the various locations as non-remote is the Agency's finding that wastewater screening and individual offshore disposal of screened fish wastes by an appropriate vessel is available, practicable, and achievable in each location. Thus, EPA concludes that each of these areas is appropriately characterized as non-remote. EPA based this conclusion on updated data and information and technical and economic analyses. The Agency

does not project any potential processing plant closures or firm failures from these costs. Furthermore, the costs are low and would lead to significant reductions in the mass of discharged waste.

Where collective by-product recovery facilities are currently available or may become available, applying the ELGs based on screening to non-remote locations would promote the use of these facilities and thus remove waste solids from both nearshore and offshore receiving waters. The increased use of by-product recovery would also reduce the overall cost of waste management by recovering a significant portion of the waste for other revenue producing uses. The revenues from by-product recovery would provide the opportunity for seafood processors and associated employment in local coastal communities to become more sustainable. Where fish oil is produced and used as a fuel supplement, the amount and cost of fossil fuel (diesel) used for on-site power generation could be substantially reduced.

Consistent with EPA's 1981 proposal, EPA is again considering revising the scope of the ELGs non-remote location criteria to eliminate the possibility that a locality may be classified as non-remote based solely on its character as a population center. EPA recognizes that a processor's location in a population center has no bearing on the costs of screening or solids disposal options. Costs for an isolated individual processor might be considerably higher than costs for a processor located near other processors, regardless of the local population. Among key factors that may determine the feasibility of screening and discretionary solids management alternatives for processors in a given location in Alaska (e.g., offshore disposal of screened fish wastes, by-product recovery, or others) are the amount of processing waste available for waste management alternatives and the length of the processing season. In locations where one or more processors generate sufficient waste to take advantage of economies of scale, options for

managing screened solids include collective offshore disposal of waste solids, collective by-product recovery, a combination of collective offshore disposal of waste solids and by-product recovery, and any other feasible option. EPA intends the term non-remote processing location to cover any geographic area or location where processors can reasonably achieve economies of scale, either individually or collectively, for managing screened seafood processing wastes, in comparison to processors in isolated locations where transportation and other costs may be substantially higher. Such locations need not have appreciable population beyond that necessary for processing operations. Therefore, the Agency is again considering removing the term "population center" from the definition of non-remote areas, in order to focus on non-remote processing locations. Such language was included in the amended regulations proposed in 1981. 46 FR 2552-54 (January 9, 1981). See **Section VIII. Solicitation of Comments** of this notice, below.

As in the 1981 proposal, the Agency is again considering including Ward Cove as a part of the Ketchikan processing location, and adding Dutch Harbor and the Kenai Peninsula to the non-exclusive list of non-remote processing locations. Further, with the recently gathered information and data, EPA is also considering adding Sitka to the list of non-remote processing locations. Processors in these three locations also have access to more reliable and cost effective solids management alternatives through economies of scale.

B. Revision of New Source Performance Standards

Finally, and also consistent with EPA's 1981 proposal, EPA is again considering amending the regulations for new source performance standards (NSPS) to require that new sources in areas classified as non-remote for purposes of BPT also meet the non-remote ELG requirements for purposes of NSPS. *See* 46 FR 2550 (January 9, 1981). The NSPS in these

subcategories include numerical effluent limitations for TSS, oil and grease, and a range for pH as do the limitations set out in the regulations based upon BPT. The NSPS numerical effluent limitations for TSS and oil and grease are somewhat more stringent than those based upon BPT. They are not based on any additional end-of-pipe wastewater treatment technologies, but rather on reduced in-plant water use for processing operations. The reduced water usage was demonstrated by processing plants operating when the regulations were originally promulgated and is based upon good housekeeping practices achieved at very little, if any, cost.

EPA's current analysis indicates that any new sources in non-remote locations should be required to meet standards based on screening technology. New processors should be able to install screening technology and operate waste solids disposal with very small incremental costs, beyond those associated with the cost of a new processing facility. Such costs are not a barrier to entry to seafood processing in these locations. In addition, new sources may be able to access collective waste disposal, use existing by-product recovery facilities with adequate capacity in these areas, or collaborate with other processors to establish new facilities where existing facilities do not currently exist or may not have adequate capacity. Therefore, EPA is again considering amending the regulations to require that all areas categorized as non-remote for purposes of BPT similarly be categorized as non-remote for purposes of NSPS.

C. Location-by-Location Analysis

This section analyzes each area included in the 1980 petition: Anchorage, Cordova, Juneau, Ketchikan, and Petersburg. EPA is considering denying the petition for all of these locations, thus requiring facilities in these locations to comply with the effluent limitations based upon screening.

1. Anchorage

EPA is again considering denying the petition to reclassify Anchorage as remote and requiring effluent limitations guidelines based on screening. In 1981, some facilities in Anchorage directly discharged effluent. However, circumstances have changed since 1981; all seafood processors currently operating in Anchorage discharge to the local publicly owned treatment works (POTW). In other words, no seafood processors currently are discharging directly to waters of the United States in the Anchorage processing location. Therefore, because there are no direct dischargers in Anchorage, EPA estimated no costs for this requirement in Anchorage.

Even though processing plants currently operating in Anchorage currently do not directly discharge seafood processing waste, they have the option to do so. Throughout Alaska, there have been ongoing changes in location, size, and fish species processed at processing plants. The ownership of processing plants and the corporate structure of the seafood processing industry throughout Alaska also have evolved. These factors could lead to a change in discharge practices.

In addition, new processing plants could be sited in Anchorage and choose to discharge directly to waters of the United States, and thus be subject to the new source performance standards for non-remote locations. Based on EPA's review of the information and data in the public record, the Agency concludes it is likely that processing plants now operating or ones that could be operating at a future date in Anchorage would be similar to those operating in the other processing locations for which EPA has analyzed recently gathered information and data. EPA observed similarities among all facilities in fish species, processing methods, wastewater generation, applicability of screening technology and discretionary solids management alternatives. There were also similarities in the range of low costs and effluent reduction benefits

for all locations other than Anchorage, to both individual processors and owner firms. Therefore, effluent limitations based upon screening and solids disposal are appropriate for both existing and new sources for the Anchorage processing location. Any such facilities that choose to cease discharging to the POTW and begin discharging directly, or any new facilities with direct discharge, may find it advantageous to cooperate in a collective by-product recovery facility to further reduce waste management costs and make their operations more sustainable. As already noted above, EPA has determined there are no barriers to entry for new facilities due to these very small incremental costs.

2. Cordova

EPA is again considering denying the petition to reclassify Cordova as remote and requiring effluent limitations based upon screening. Four processors located in Cordova process a variety of fish (mostly salmon) and generate a total of approximately 22 million pounds of waste per year. One processor in Cordova constructed a new by-product recovery facility and began operation in 2009. This new facility was designed with the intention of having the capacity to accept all of the waste generated by all four processing plants operating in Cordova.

EPA's analysis of this processing location indicates total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.02 to $0.04 per pound of waste removed (see Table A above). These costs are low and the effluent reduction benefits are substantial (approximately 22 million pounds per year). No projected processing plant closures or firm failures resulted from imposing these costs, and EPA did not identify a barrier to entry for new sources. EPA's analysis indicates the four processors accessing the by-product recovery facility are incurring lower operating costs than for screening and offshore disposal of screened fish wastes as noted above.

3. Juneau

EPA is considering denying the petition for Juneau, thus retaining the location's non-remote classification as promulgated in the original regulations prior to the suspension, and requiring effluent limitations based upon screening. Two processors in this location generate approximately four million pounds of waste per year, mainly from the processing of salmon.

EPA's analysis of this processing location indicates the approximate total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.02 to $0.04 per pound of waste removed (see Table A above). These costs are low and the effluent reduction benefits are substantial (approximately four million pounds per year). No projected processing plant closures or firm failures resulted from the facilities incurring these costs, and EPA did not identify a barrier to entry for new sources.

4. Ketchikan

EPA is again considering denying the petition for Ketchikan, thus retaining this location's classification as non-remote and requiring effluent limitations based on screening technology. As in the 1981 proposal, EPA also is again considering including Ward Cove in the Ketchikan processing location. Five processors located in Ketchikan process a variety of fish, mostly salmon, and generate a total of approximately 14 million pounds of waste per year. Alaska Protein Recovery, a mobile barge-based by-product recovery facility, began operating at this location in 2007. It produces primarily food grade salmon oil, which is converted into nutraceuticals at another site, and salmon protein hydrolysates. [See http://www.alaskaproteinrecovery.com/home] This by-product recovery facility processes the waste generated by four of the five processors in Ketchikan.

EPA's analysis of this processing location indicates total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.02 to $0.04 per pound of waste removed (see Table A above). The costs are low and the effluent reduction benefits are substantial (approximately 14 million pounds per year). No projected processing plant closures or firm failures resulted from the facilities incurring these costs, and EPA did not identify a barrier to entry for new sources. EPA's analysis indicates the four processors accessing the by-product recovery facility are incurring lower operating costs than for screening and offshore disposal of screened fish wastes as noted above.

5. Petersburg

EPA is again considering denying the petition for Petersburg, thus retaining the location's classification as non-remote and requiring effluent limitations based upon screening technology. Three processors located in Petersburg process a variety of fish, mostly salmon, and generate a total of approximately 10 million pounds of waste per year. An existing by-product recovery facility has been operating in conjunction with one of the processing plants for many years. However, the existing capacity of this facility is insufficient to accommodate the wastes from all three processors.

EPA's analysis of this processing location indicates total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.02 to $0.04 per pound of waste removed (see Table A above). These costs are low and the effluent reduction benefits are substantial (approximately 10 million pounds per year) as generated by two of the three processors. No projected processing plant closures or firm failures resulted from the facilities incurring these costs, and EPA did not

identify a barrier to entry for new sources. EPA's analysis indicates the processor operating a by-product recovery facility is incurring lower operating costs than for screening and offshore disposal of screened fish wastes as noted above.

VIII. Solicitation of Comments

The Agency is considering classifying three additional locations as non-remote for purposes of compliance with BPT effluent limitations and New Source Performance Standards based upon screening: Dutch Harbor, the Kenai Peninsula, and Sitka. In the 1981 proposal, EPA solicited comment on adding Dutch Harbor and the Kenai Peninsula, while newly gathered information and data has resulted in EPA also considering adding Sitka.

A. Dutch Harbor

The Dutch Harbor processing location has expanded dramatically since 1981, when its production capacity was largely devoted to shellfish (mostly crab). Today, Dutch Harbor is the largest seafood processing location in the United States. In recent years, the three long-standing processors in Dutch Harbor have focused on processing pollock (more than 90 percent of total production). Shellfish processing, which had accounted for a large share of the total production, is now a small portion. As the result of an increase in serious environmental impacts in Dutch Harbor since 1981, in 1995 EPA developed a TMDL for South Unalaska Bay, which was on the State's 303(d) list of impaired waters due to seafood waste. As a result of the TMDL, seafood processors that discharge into South Unalaska Bay have individual NPDES permits that contain water quality based effluent limitations based on waste load allocations (WLA) in the TMDL for South Unalaska Bay. In turn, these water quality based effluent limitations are being achieved primarily by screening.

Nonetheless, EPA also recognizes the need to establish appropriate technology-based effluent limitations and standards for purposes of BPT and NSPS for this processing location. Three processors generate approximately 300 million pounds in total waste per year. After examining the site-specific circumstances and in-place screening and by-product recovery at all three processors, EPA does not estimate any additional costs or effluent reduction benefits. Also, EPA did not identify a barrier to entry for new sources. Therefore, EPA concludes that it is reasonable to consider establishing technology-based effluent limitations guidelines and standards for purposes of BPT and NSPS based upon screening technology for Dutch Harbor.

B. Kenai Peninsula

The Kenai Peninsula currently hosts ten seafood processors within a relatively small geographical area. The processors are dispersed around the perimeter of the peninsula and linked by a paved road system. They are located in municipalities including Kenai, Soldotna, Ninilchik, Homer, and Seward, and their combined annual waste production is approximately 10 million pounds.

EPA performed cost analysis and an economic impact analysis of processors and owner firms on the Kenai Peninsula. These analyses were based on both questionnaire responses for some of the facilities and modeling for facilities with no questionnaire responses. See the discussion of use of model facilities in section **VI. B. Economic Impact Analysis** of this notice, above.

EPA's analysis of this processing location indicates total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.04 to $0.07 per pound of waste removed (see Table B above). These costs are low and the effluent reduction benefits are substantial (10 million pounds

per year). No projected processing plant closures or firm failures resulted from the facilities incurring these costs, and EPA did not identify a barrier to entry for new sources. Therefore, EPA concludes that it is reasonable to consider establishing technology-based effluent limitations guidelines and standards for purposes of BPT and NSPS based upon screening technology for the Kenai Peninsula.

C. Sitka

The Sitka location currently includes three operating processors, whose combined annual waste production is approximately four million pounds. EPA's analysis of this processing location indicates the approximate total annualized costs per plant for screening and offshore disposal of screened fish wastes are in the range of less than $0.10 million per plant, or approximately $0.04 to $0.07 per pound of waste removed (see Table B above). These costs are low and the effluent reduction benefits are substantial (approximately four million pounds per year). No projected processing plant closures or firm failures resulted from the facilities incurring these costs, and EPA did not identify a barrier to entry for new sources. Therefore, EPA concludes that it is reasonable to consider establishing technology-based effluent limitations guidelines and standards for purposes of BPT and NSPS based upon screening technology for Sitka.

D. Specific Comment Solicitations

The Agency also solicits comments, data, and information specifically on the following:

(1) Additional anecdotal, photographic, dive studies, and other related information that would assist EPA in analyzing impacts of seafood waste discharges and receiving water waste piles on humans, including impacts on minority, low-income, and indigenous populations overburdened by pollution, and related potential impacts. EPA also solicits information on the

impacts on local tourism, nuisances, safe operation of vessels and private and commercial aircraft, etc., as well as impacts on the nearshore and offshore receiving water environments.

(2) Any information that would assist the Agency in assessing plant-specific costs for and economic impacts of individual screening and offshore disposal of screened fish wastes, and similar information for collective by-product recovery facility costs for non-remote processors. This information could include equipment and installation costs, operating costs and factors that influence the designs and the magnitude of these costs, detailed fish processing production data, and financial data including revenues. EPA is also soliciting information on the cost of capital, cost of electric power delivery from local grids where available, etc., for individual facilities for which EPA has not received questionnaire responses in 2010, and any other relevant data and information. EPA would use this information to inform data and analyses for screening and offshore disposal of screened fish wastes presented in Tables A and B, in section **VI. B. Economic Impact Analysis** of this notice, above.

(3) Short- and long-term trends in the seafood processing industry, the range of species and fisheries, landings, values, etc., as they relate to the industry as a whole and to the processing locations being considered by the Agency for classification as non-remote.

(4) Adding Dutch Harbor, Kenai Peninsula, and Sitka to the list of processing locations considered non-remote, and thus requiring effluent limitations based upon screening. EPA also seeks comment on other potential processing locations that the commenters believe the Agency should consider, but did not specifically identify in this notice. For instance, EPA may consider adding other locations such as Naknek and possibly others to the list of "non-remote" locations. EPA will carefully consider the characteristics of any additional locations where information and data supplied with comments show that economies of scale, either individually or collectively,

offer opportunities for cost effective management and utilization of screened solid seafood processing wastes similar to existing processing locations already considered to be non-remote.

(5) Factors that influence the economics of the discretionary solids management alternative of collective by-product recovery, primarily within the Alaskan and United States markets for seafood waste by-products. EPA seeks comments and data on the factors affecting the maturing and substantial expansion of collective by-product recovery as it has occurred over the last 30 years in Alaska. EPA is seeking information on supply, demand, and price, long-term and short-term market trends and competing products such as soybean oil, and other sources and types of fish meal. EPA is seeking information also on chitin produced from shellfish, nutraceuticals used as dietary supplements (e.g., Omega-3 fatty acids, chondroitin, etc.), compost and fertilizer supplements, supplemental animal feeds and pet foods, bone meal, and fish waste used to generate methane, etc. EPA also seeks information on the use of fish oil produced from fish wastes as a non-fossil fuel supplement (e.g., diesel fuel) primarily for local or on-site power generation.

(6) Denial of the petition for the five locations addressed in this notice, specifically Anchorage, Cordova, Juneau, Ketchikan, and Petersburg.

(7) Revising the definition of applicability of the regulations at 40 CFR 408.40, 408.60, 408.90, 408.162(b)(1), 408.165(a)(1). 408.172(b)(1), 408.175(a)(1), 408.202(b)(1), 408.205(a)(1), 408.292(b)(1), 408.295(a)(1), 408.312(b)(1), and 408.315(a)(1) to a non-exclusive list of “non-remote” facilities from “population or processing centers” to “processing locations” where one or more seafood processing facilities are located.

Dated: October 24, 2013.

Nancy K. Stoner, *Acting Assistant Administrator, Office of Water.*

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