

**Department of Environmental Conservation
Response to Comments**

For

City of Valdez, Wastewater Treatment Facility

APDES Permit No. AK0021431

Public Noticed: April 8, 2015 – May 8, 2015

June 22, 2015



**Alaska Department of Environmental Conservation
Wastewater Discharge Authorization Program
555 Cordova Street
Anchorage, AK 99501**

1 Introduction

1.1 Summary of Facility / Permit

The Valdez Wastewater Treatment Facility (WWTF) is a publically-owned treatment works that treats domestic wastewater for the City of Valdez. The City of Valdez operates the Valdez WWTF.

Discharge Location: The wastewater discharge is transmitted through a marine outfall line to the Port of Valdez at: N 61° 6' 58.91" by W 146° 16' 50.66"

Description of Discharge: The wastewater effluent is secondary treated domestic wastewater that discharges at average daily flow rate of 1.09 million gallons per day. The main pollutants monitored in this wastestream are five-day biochemical oxygen demand (BOD₅), total suspended solids (TSS), fecal coliform bacteria, enterococci bacteria, pH, dissolved oxygen, total chlorine residual, total ammonia, total recoverable copper, temperature, and chronic whole effluent toxicity (WET).

Mixing Zone: A chronic mixing zone has been authorized in the permit. The chronic mixing zone is a rectangle with a width of 66 feet and a length of 44 feet centered on the diffuser, from the seafloor to the surface. The chronic mixing zone is authorized for: total ammonia, fecal coliform bacteria, WET, and total residual chlorine. The mixing zone size was driven by the dilution required for total ammonia. The dilution factor for the chronic mixing zone is 21.2. In addition the acute mixing zone size is a rectangle with a width of 62 feet and a length of 8 feet centered on the diffuser, from the seafloor to the surface. The acute mixing zone is authorized for total ammonia and total residual chlorine. The dilution factor for the acute mixing zone is 4.2.

1.2 Opportunities for Public Participation

The Alaska Department of Environmental Conservation (DEC and the Department) proposed to issue an Alaska Pollutant Discharge Elimination System (APDES) wastewater discharge permit to the City of Valdez. To ensure public, agency, and tribal notification and opportunities for participation, the Department:

- identified the permit on the annual Permit Issuance Plan posted online at: <http://www.dec.state.ak.us/water/wwdp/index.htm>
- notified potentially affected tribes and local government(s) that the Department would be working on this permit via letter, fax and/or email
- posted a preliminary draft of the permit on-line for a 10-day applicant review February 17, 2015 and notified tribes, local government(s) and other agencies
- formally published public notice of the draft permit on April 8, 2015 in *The Valdez Star* and posted the public notice on the Department's public notice web page
- sent email notifications via the APDES Program List Serve when the preliminary draft, draft, and proposed final permits were available for review

The Department received comments from two interested parties on the draft permit and supporting documents. The Department also requested comment from the Army Core of Engineers, Departments of Natural Resources, Fish and Game, Transportation, Parks, the National Marine Fisheries Service, National Oceanic and Atmospheric Association, the U.S. Fish and Wildlife Service, and the U.S. Environmental Protection Agency (EPA).

This document summarizes the comments submitted and the justification for any action taken or not taken by DEC in response to the comments.

1.3 Final Permit

The final permit was adopted by the Department on June 22, 2015. There were minor changes from the public noticed permit. Changes are identified in the response to comments and reflected in the final fact sheet for the permit.

2 Comments on Effluent Limits

2.2 Comment Summary

The applicant requested that the TSS percent removal requirement in the draft permit be modified to match the seasonal adjustments to BOD₅ similar to what was included in the previous permit.

Response:

Secondary treatment standards, including a minimum 85% removal for BOD₅ and TSS, are required to be met by all publicly owned treatment works [40 CFR § 125.3(a)(1) as adopted by reference at 18 AAC 83.010(c)] unless “(t)he treatment works is consistently meeting, or will consistently meet, its permit effluent concentration limits but its percent removal requirements cannot be met...” [40 CFR § 133.103(d)(1) as adopted by reference at 18 AAC 30.010(e)]. DEC reviewed monitoring results for the City of Valdez WWTF and determined that the TSS minimum 85 percent removal requirement could consistently be met by the WWTF (Fact Sheet Appendix B pp. 26 – 27) therefore the minimum 85 percent removal requirement for TSS has been included in this permit issuance.

2.3 Comment Summary

EPA requested that the fact sheet “include additional information, such as a summary of DMR (discharge monitoring report) data, to demonstrate that the facility cannot meet 85% removal (for BOD₅), and therefore, may qualify for a reduced limit. The permit should include requirements to address factors contributing to the facilities inability to meet the Secondary Treatment standards.”

Response:

DEC agrees and has included summary data for BOD₅ in the fact sheet (Appendix B.1) and permit conditions that are related to addressing inflow and infiltration (Permit Section 2.2.2.6 and 2.2.2.7).

2.4 Comment Summary

EPA commented that permit section 1.2.3 regarding effluent limits “for oil, grease, scum appears to be incomplete in order to evaluate and ensure compliance with the narrative standard 18 AAC 70.020(b)(8)(A)(i).” EPA recommended adding additional language to reflect the regulation.

Response:

DEC has revised permit section 1.2.3 to ensure compliance with the narrative standard.

2.5 Comment Summary

EPA commented about fecal coliform (FC) bacteria effluent limits that: “(t)he Fact Sheet should clarify the basis of the limit for fecal coliform, other than it is being retained from the previous permit. The fact sheet does not explain whether limits are technology-based or water quality based and limits do not appear to be consistent with the State's water quality standards for fecal coliform for marine waters [18 AAC 70.020(b)(2)]. The Fact Sheet should provide an explanation of how the derived limit is protective of the designated and existing uses (including aquaculture, secondary and contact recreation).”

Response:

Further detail for FC bacteria limits has been added to fact sheet section B.2.3.3.

3 Comments on Monitoring Requirements Comment Summary

The applicant commented on additional monitoring located in permit section 1.3. They requested a clear explanation of what the tests are and when they are required and whether it increases the number of WET tests required.

Response:

Permit section 1.3 is a regulatory requirement for additional monitoring to be included with an application for permit reissuance (Form 2A) based on the facility's design flow. 18 AAC 83.330(f) requires that an applicant undertake sampling of the effluent for pollutants listed in Appendix J, Table 1, Table 1A, and Table 2 to 40 CFR Part 122, adopted by reference in 18 AAC 83.010 if the POTW has a design flow greater than one million gallons per day [18 AAC 83.330(f)(1 – 3)]. These testing requirements are located in Section 10, 11, and 12 of Form 2A and should consist of “a minimum of three samples taken within four and one-half years before the date of the permit application” [18 AAC 83.330(f)(5)].

Table 1A, Table 1, and Table 2 of Appendix J to 40 CFR Part 122 can be viewed at:

http://www.ecfr.gov/cgi-bin/text-idx?SID=89e4d84d338872616cf89f668bd24875&mc=true&node=ap40.22.122_164.j&rgn=div9

APDES Form 2A can be located at:

http://dec.alaska.gov/water/wwdp/online_permitting/pdfs/Form%202A%20POTWsReader.pdf

The requirements in permit section 1.3 do not increase the number or frequency of WET tests required in the fourth year from the effective date of the permit.

3.2 Comment Summary

EPA commented that a “monthly grab sample is not adequate for characterizing the temperature profile of the effluent or determining compliance with temperature (sic) standard. The EPA recommends continuous monitoring.”

Response:

Currently, the City of Valdez does not have the capability of continuous monitoring for temperature; therefore, DEC has increased the effluent temperature monitoring requirement from 1/Month to 1/Week.

3.3 Comment Summary

EPA commented that “the facility is discharging to a marine waterbody whereas before it was discharging to freshwater, the EPA recommends the permit include a requirement for receiving water monitoring for ammonia, fecal coliform, residue, pH, temperature, copper (sic)...Receiving water data would verify the assumptions made in the development of permit limits and would be useful in conducting reasonable potential analysis for the next permit cycle.”

Response:

DEC has added section 1.6 to the permit that requires ambient monitoring for total ammonia, pH, fecal coliform bacteria, temperature, and salinity. Residue and copper have been excluded due to a lack of existing effluent data for these parameters, which would establish whether they are indeed parameters of concern or not and require further permit requirements. Further, the residue narrative standard included in permit section 1.2.3 is sufficient to control the discharge of residues. The permit requires quarterly sampling for copper to build a data set for this parameter. A decision to include copper as an ambient monitoring requirement will be made with the next permit issuance once a more complete effluent copper data set is available.

3.4 Comment Summary

EPA requested that DEC “consider including 100% effluent in the dilution series for WET to further evaluate toxicity and determine the level of dilution needed for WET.”

Response:

WET requirements are established in accordance with 18 AAC 70.030(a) which requires that effluent may not exceed 1.0 chronic toxic units “at or beyond the mixing zone boundary.” Furthermore, this permit follows other recently issued APDES permits that contain WET monitoring and a mixing zone. DEC has decided that adding the 100% effluent in the dilution series is not necessary.

4 Comments on the Mixing Zone Comment Summary

The applicant submitted a comment about the mixing zone indicating that their “consultant...modeled and requested a 100 foot circular radius mixing zone based on a mixing zone model that ADEC requested. Why is the mixing zone in the draft permit rectangular, and much smaller?”

Response:

18 AAC 70.240(a)(2) as amended through June 26, 2003, requires that a mixing zone only be authorized “if the department finds that available evidence reasonably demonstrates that the mixing zone will be as small as practicable.” According to the APDES Form 2M mixing zone application and attached CORMIX model checklists supplied by the applicant, a mixing zone of 100 feet radius would provide more dilution than is required to meet water quality criteria at a maximum expected effluent concentration for ammonia of 30.75 mg/L (as determined by the reasonable potential analysis; see fact sheet Appendix C). Therefore,

a 100 foot radius mixing zone would not comply with 18 AAC 70.240(a)(2) and the authorized mixing zone has been modified to comply with this regulation as described in the fact sheet section 5.3.

A rectangular mixing zone shape was determined to be most representative of the actual conditions as the submitted CORMIX model indicates that the effluent plume would be deflected by the ambient current rather than undergo passive ambient spreading.

4.2 Comment Summary

The applicant asked how the mixing zone dimensions are oriented relative to the diffuser and requested DEC show how the mixing zone fits over the outfall.

Response:

DEC has made a slight revision to the description of the mixing zone in section 5.3 of the fact sheet. The authorized mixing zones are centered over the diffuser but are parallel (length) and perpendicular (width) to the shore bank. DEC has used the orientation of the diffuser relative to the ambient current that was supplied in the CORMIX checklist attached to the Form 2M mixing zone application.

5 Comments on Permit Conditions

5.1 Comment Summary

EPA commented that “regulations requiring that NPDES permits must prescribe that only ‘sufficiently sensitive’ methods be used for analyses of pollutants or pollutant parameters identified in the permit. Additionally, the regulation applies to NPDES permit applicants when completing an NPDES permit application. DEC should ensure that all references used in NPDES permits regarding monitoring, reporting, and application submissions reflect this recent change.”

Response:

DEC will consider EPA’s APDES program-related comments in future permitting actions. In the interim, DEC has added a requirement for sufficiently sensitive test methods in permit section 1.2.5.