

Response to Comments
2004 Permit Issuance for the Ketchikan Pulp Company
NPDES Permit No. AK-005339-2

Ketchikan Pulp Company
Ward Cove Landfill
NPDES Permit No. AK-005339-2
Public Comment Period: 2/6/04 - 3/8/04

During the public comment period specified above, the Discharger, the Ketchikan Pulp Company, submitted comments regarding the proposed NPDES permit. This document summarizes those comments and provides EPA's response to them. No other comments were received.

1. Regarding Section 1. B of the Permit - Effluent Limitations

Comment: The Discharger questions the basis for this narrative effluent limitation, which states:

The authorized discharges shall not, alone or in combination with other substances or wastes, make the receiving waters unfit or unsafe for use; cause a film, sheen, or discoloration on the surface of the waters or adjoining shorelines; cause leaching of toxic or deleterious substances; cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

The Discharger also believes that the limitation conflicts with other effluent limitations of the proposed permit, particularly those pertaining to color and toxicity.

Response: This limitation is a restatement of the Alaska Department of Environmental Conservation's (ADEC) water quality standard for residues in marine waters at 18 AAC 70.020 (b). In light of the adverse impacts to Ward Cove caused by past deposition of residues, EPA and ADEC have determined that this water quality standard is an important limitation in the proposed permit to protect State interests and prevent further degradation of the receiving water.

Numeric effluent limitations established in Section I. C of the proposed permit will apply at the end of pipe and considers the mixing zone authorized by ADEC. The establishment of these limitations with a mixing zone is an acknowledgment that the Alaska Water Quality Standards may be exceeded within the mixing zone.

EPA reads the portion of the limitation regarding leaching of toxic substances to prohibit the discharge, after contact with the receiving water, from causing leaching of toxic substances.

The proposed limitation at Section I. B of the permit will be modified as follows, to clarify the impact of a mixing zone and to remove "discoloration" from the text.

The authorized discharges shall not, alone or in combination with other substances or wastes, at any point outside the mixing zone, make the receiving waters unfit or unsafe for use; cause a film or sheen on the surface of the waters or adjoining shorelines; cause leaching of toxic or deleterious substances; cause a sludge, solid, or emulsion to be deposited beneath or upon the surface of the water, within the water column, on the bottom, or upon adjoining shorelines.

2. Regarding Section 1. C of the Permit - Recalculation of Effluent Limitations

Comment: The Discharger is unclear as to what dilution factor has been used to develop water quality based effluent limitations.

Response: On April 15, 2002, the Discharger submitted a Mixing Zone Application to ADEC and sought approval of a mixing zone that would provide dilution of 25 to 1 with a radius of 16 feet (5 meters) and extending 16 feet above the point of discharge. Unless the Discharger seeks authorization for, and ADEC approves, a different sized mixing zone in accordance with ADEC regulations at 18 AAC 70.240 - 18 AAC 270, EPA intends that the proposed permit be based on dilution of 25 to 1, provided by a mixing zone as described in the Discharger's application of April 15, 2002. Section I. C of the proposed permit incorrectly describes a mixing zone with a radius of 50 feet; however, the numerical effluent limitations presented in Table 1 are correct, reflecting a dilution factor of 25 to 1 and the smaller mixing zone. The text of the final permit will be corrected accordingly.

Comment: During discussion of the comment, above, the Discharger, EPA, and ADEC determined that text describing Table C-2 of the Fact Sheet should be clarified so that it is clear that the final NPDES permit will not allow an exceedance of the applicable whole effluent toxicity (WET) criterion of 1.0 TUc (chronic toxicity units) at the edge of the approved mixing zone.

Response: By reference, the following text is incorporated into the end of the paragraph, which immediately precedes Table C-2 in the Fact Sheet.

The reasonable potential analysis, which accounts for effluent variability, projected that current effluent characteristics and the mixing zone sought by the Discharger could possibly result in an exceedance of the applicable water quality criterion for WET at the edge of the mixing zone. The analysis projected a possible WET level of 1.5 TUc at the edge of the mixing zone, compared to the applicable water quality criterion of 1.0 TUc. This conclusion, therefore, led EPA to include effluent limitations for WET in the permit to ensure attainment of the water quality criterion of 1.0 TUc. It will be the Discharger's responsibility to meet all effluent limitations of the permit.

3. Regarding Section 1. C of the Permit - Flow Limit

Comment: The Discharger comments/questions the proposed monthly average flow limitation of 0.09 mgd, which corresponds to the landfill leachate treatment system's design flow rate, as presented in the Discharger's NPDES Permit Application of April 16, 2002. The Discharger asks that a flow limitation be established at 0.18 mgd, which corresponds to the 95th percentile of actual flow measurements made during 2001 – 2004. Justification provided for the suggested change in the flow limitation are that the discharge flow rate is not controlled by the Discharger, a significant portion of the discharge results from precipitation, and the increased flow rate will enhance discharge conditions at the outfall.

Response: For industrial facilities, guidelines at 40 CFR 122.45 (b) require limitations to be based on "a reasonable measure of actual production." EPA agrees that the actual flow through the wastewater treatment system of 0.18 mgd is an appropriate flow rate to use in the permit and is also a figure that satisfies EPA regulations. EPA does have, however, the following concerns about including a flow limitation of 0.18 mgd in the discharge permit.

- a. The Discharger's NPDES Permit Application of April 15, 2002 stated that the design flow rate of the wastewater treatment system is 0.09 mgd.
- b. Dilution must not be used to achieve compliance with effluent limitations.

For a discharge permit with a flow limitation of 0.18 mgd to be approved, the Discharger has provided a satisfactory written response to these concerns. The response explained the discrepancy between design and actual flow rates for the wastewater treatment system; that treatment efficiency is not compromised at the higher flow rates, and that effluent limitations can be met at the higher flow rate. The written response, signed by a company officer, also noted that the influent flow rate is not controllable, and flow will not be diverted around the wastewater treatment system.

4. Regarding Section 1. E of the Permit - Storm Water pH

Comment: Due to natural conditions, storm water in the vicinity of the landfill may have a very low pH and cause storm water discharges to exceed the proposed pH limitation, which requires pH of storm water discharged to be within the range of 6.5 – 8.5 and not vary more than 0.5 pH units.

Response: The proposed effluent limitation in question is a restatement of ADEC's applicable water quality standard for pH in fresh waters at 18 AAC 70.020 (b). EPA acknowledges, however, that unusual pH conditions in storm water can exist due to natural conditions associated with decaying vegetation. EPA has also determined that it could be very difficult to account for such unusual background conditions when monitoring for compliance purposes, and therefore, is eliminating the pH limitation for discharges of storm water and is instead including a provision in the Storm Water Pollution Prevention Plan requirements that requires permanent maintenance of the limestone within the storm water check dams of the landfill area or implementation of other best management practices that will achieve the same protection from pH depressions as the limestone check dams. Because monitoring data has shown that metals

may be a concern within storm water runoff from the site, it will be to the Discharger's advantage to minimize pH depressions in storm water, which could solubilize metals and contribute to elevated metals concentrations.

5. Regarding Monitoring Requirements Generally

Comment: The Discharger requests that, after six consecutive monitoring events and a showing of pollutant stability, the number of monitored parameters and required monitoring frequencies be decreased.

Response: The two portions of this landfill were closed in 1998 and 2001, and construction of the leachate treatment system was completed in 1998. EPA considers this to be a recent closure and cannot conclude that the degree and pattern of leaching within the landfill and leachate characteristics have stabilized. EPA therefore believes that this is not an appropriate time to consider a general reduction in monitoring requirements. At any time in the future, however, the Discharger may request a permit modification to reduce monitoring requirements, if treated leachate shows stability over time and under varying seasonal and flow conditions. EPA does recognize that there are monitoring requirements in the draft permit for four organic compounds (α-terpineol, benzoic acid, p-cresol, and phenol) only because these four pollutants are highlighted by the Effluent Limitations Guidelines for the Landfills Point Source Category. Because these pollutants are unlikely contaminants in this landfill, which contains wood waste and boiler bottom ash, the monitoring requirements for these specific compounds will be modified in the draft permit to require quarterly monitoring for two years, and annual monitoring thereafter, if the pollutants are not detected by the first two years of quarterly monitoring.

6. Regarding Section II. B of the Permit - Flow Monitoring

Comment: The Discharger states that measuring average and maximum daily flow is impractical and asks that determination of average daily flow be allowed by dividing the cumulative monthly flow by the number of days in the month.

Response: The permit includes only a monthly average flow limitation, and mass limitations are expressed as average monthly limitations (there are no maximum daily, mass limits). When monitoring occurs at an interval of one time per month or less frequently, any maximum daily pollutant measurement also becomes an average monthly measurement. Because average monthly effluent limitations are the most stringent mass limits that can be established, the inclusion of max daily effluent limitations in the permit would accomplish nothing, given the monitoring frequencies established by the permit. The NPDES permit, therefore, is functionally accomplishing the requirement of 40 CFR 122.45 (d) to include max daily and average monthly limitations and to express those limits in terms of mass.

Daily flow measurement in a wastewater treatment facility, especially one with widely variable influent flow rates, is a routine capability of such a system. If this was a facility where flows did not fluctuate, there would be some opportunity for EPA to conclude that daily flow measurement was unimportant. Where flow fluctuates, however, understanding of flow is very

important to understanding treatment efficiencies and compliance issues. Total monthly flow figures and calculation of average daily flows will not add significantly to EPA's or to the operator's understanding of the wastewater treatment system. Further, critical flows have not been identified for this facility - flows that surpass treatment or hydraulic capacities; and the operator and EPA must understand if those flows are occurring within the leachate treatment system.

EPA feels that the time of writing the first discharge permit for this facility is not the time to be backing off of an important monitoring requirement such as daily flow measurement.

7. Regarding Section II. B of the Permit - 24 Hour Composite Sampler

Comment: The Discharger states that due to mixing and retention time of greater than 100 hours that occurs in the lagoon and settling basin, 24 hour composite sampling of effluent is not warranted.

Response: EPA agrees, and all requirements for 24 hour composite samples will be replaced in the permit with requirements for grab samples.

8. Regarding Section II. B of the Permit - Color, TSS, and pH

Comment: The Discharger requests that frequency of monitoring for color, TSS, and pH be decreased from monthly to quarterly, as fluctuation in these parameters is unlikely.

Response: Ward Cove remains on the State's 303 (d) list, being impaired for residues; and color was removed as an impairing pollutant on the 1998 303 (d) list. In this light, EPA has determined that monthly monitoring for TSS and color is important to prevent further degradation of the Cove and to provide for its long term protection. EPA has also determined that due to the influence of pH on the solubility of metals, monthly monitoring for pH will be insightful regarding the seasonal stability of treated leachate.

The Monitoring and Reporting Plan will be modified to indicate that color and pH measurement may be performed onsite by the Discharger. Analytical procedures used by the Discharger must meet the criteria of 40 CFR 136, some of which can be performed as field tests (i.e, pH and color).

9. Regarding Section II. B of the Permit - Metals

Comment: The Discharger requests that monitoring requirements for the metals be reduced.

Response: Because of the association of metals with fossil fuels and the placement of boiler bottom ash in the landfill, EPA considers the metals to be pollutants of concern in discharges from the facility. Monitoring for the full suite of thirteen priority pollutant metals, two times per year, represents a minimum monitoring frequency for ongoing characterization purposes.

10. Regarding Section II. B of the Permit - Priority Pollutants

Comment: The Discharger requests that the permit requirement for an annual scan for the priority pollutants be eliminated, because the landfill is inactive and extensive priority pollutant monitoring has already been performed for the landfill leachate.

Response: EPA acknowledges that some very good priority pollutant data has already been generated by the Discharger; however EPA does not consider the landfill to have stabilized in terms of its effluent characteristics. EPA will modify this monitoring requirement to require priority pollutant monitoring in the second and fourth years of the permit only, one time during a wet season and one time during a dry season. Samples for priority pollutant analyses shall be collected concurrently with samples collected for whole effluent toxicity testing. Target chemicals on the Priority Pollutant List are specified in 40 CFR 131.36

11. Regarding Section II. B of the Permit - Footnote 1 of Table 2

Comment: The Discharger has pointed out an error in the text.

Response: The correction will be made in the permit.

12. Regarding Section II. C of the Permit - Footnote 1 of Table 3

Comment: The Discharger has pointed out two typographical errors in the text.

Response: The corrections will be made in the permit.

13. Regarding Section II. D of the Permit - Receiving Water Monitoring

Comment: The Discharger has commented that the text is confusing. While requiring that receiving water samples be representative of background conditions, the text also states that receiving water samples shall be collected at the edge of the mixing zone.

Response: EPA agrees and will remove the last sentence of this paragraph. Because there is little background data describing water chemistry of the Cove, and background data is important to determining effluent limitations, EPA will retain receiving water monitoring requirements in the permit. Section II. D of the permit will be modified, however, to require receiving water monitoring in the second and fourth years of the permit term only, instead of annual monitoring. EPA acknowledges that water chemistry of the Cove should be relatively stable, and the frequency of receiving water monitoring is reduced accordingly.

14. Regarding Section II. E of the Permit - Storm Water Monitoring

Comment: The Discharger points out that, as a practical matter, it will not be possible to collect all storm water samples within 30 minutes of the onset of a storm event.

Response: EPA will modify Table 3 and the first sentence of II. E. 2. to read:

Samples shall be collected as soon as reasonably possible following the onset of a storm event.

Sample collection language in the second sentence of II. C will also be modified to read:

Visual examination must be made of storm water samples in accordance with Section II. E of this permit.

15. Regarding Section II. I of the Permit - Representative Sampling

Comment: The Discharger comments that if there is a spill, it may be difficult to collect effluent samples “ as soon as the spill, discharge, or bypassed effluent reaches the outfall.”

Response: EPA will modify the first sentence of the third paragraph of II. I to read:

The Permittee must make a reasonable effort to collect such additional samples as soon as the spill, discharge, or bypassed effluent reaches the outfall.