

**Response to Comments**  
**City of North Pole (AK-002139-3)**  
**April 2008**

Introduction

A period for public comment on the draft permit was provided from October 17 through December 3, 2007. The following people submitted written comments by December 3.

1. Doug Isaacson, Mayor, City of North Pole
2. Michael Pollen, President, NTL Alaska, consultant to the City of North Pole
3. Sharmon Stambaugh, Environmental Program Manager, Alaska Department of Environmental Conservation

The comments from the State were submitted as a draft certificate of reasonable assurance with stipulations and recommendations. This document addresses the concerns raised in those comments by grouping those on similar topics and answering them together. This Response to Comments document serves as a supplement to and, in some cases, a correction to the Fact Sheet.

**I. General Comments**

**A. Schedule for Required Submittals**

1. Comments: The City of North Pole (the City) noted the number of due dates in the permit, some of which it felt were too close together.
  - a. It asked that the Toxicity Reduction Evaluation (TRE) Workplan, which was due 90 days after the effective date of the permit be moved to 180 days; in oral comments, the City volunteered that it would be willing to commit to an earlier date, if necessary, in order to complete the workplan before whole effluent toxicity (WET) testing. NTL Alaska also asked that this due date be added to the Schedule of Submittals in the front of the permit and inserted in the sampling plan.
  - b. The City also asked that all dates in the pretreatment program development be moved back by six to nine months. It cited the expense and staff burden of the added development work and pointed to the expired 1988 permit, under which it has been operating, and its exemplary performance over the last two decades. Under that permit, it revised its sewer use ordinance and operating agreement with the largest refinery.
2. Response:
  - a. In light of the number of submittals required of the City, EPA agrees to move back the due date for the TRE Workplan back to 180 days after the effective date of the permit or at least 14 days before the first WET test is

conducted, whichever is sooner. We feel that it is more appropriate to retain the due date in the WET section of the permit rather than imbed it in the Quality Assurance Plan, since it is crucial to addressing toxicity that may be detected in the effluent. Compliance with the due date is also tracked more easily this way.

b. Regarding the City's request for a more drawn out schedule for developing a pretreatment program, EPA is concerned that this program be fully developed and implemented as soon as possible, given the size and potential for toxic discharge from the three categorical users discharging to the City's wastewater system. It is our position that this program is long overdue because of the presence and size of the categorical users, which are users of national interest, discharging to a relatively small treatment plant. The City, with a fully developed pretreatment program, is in a stronger position to regulate the dischargers than EPA is. Therefore, the development of the pretreatment program is a high priority for us.

Specifically in regard to the request to move the due date for the industrial user survey from three months to twelve months after the effective date of the permit, it is our understanding that there are a small number of industrial users discharging to the City's system and therefore that the compilation of an industrial user survey will be fairly quick and does not warrant a year's delay after the permit is issued.

In recognition of the added workload cited by the City, we have extended the schedule for the milestones of the pretreatment program development by three months, so that they are now due between six months and twenty-one months after the effective date of the permit.

3. Actions:

a. The due date for submitting the TRE Workplan was changed to 180 days in the permit and added to the Schedule of Submittals in the front of the permit.

b. We have adjusted the pretreatment deadlines in the Schedule of Submittals and in §II.A.2; the due dates are now as follows:

(1) Within 6 months after the effective date of this permit, submit to EPA for approval the results of an industrial user survey;

(2) Within 12 months after the effective date of this permit, submit drafts of a sewer use ordinance and legal authorities;

(3) Within 18 months after the effective date of this permit, submit description of permits, inspection, monitoring, and other program procedures, enforcement response plan, description of resources, equipment & personnel necessary, including funding plans;

(4) Within 21 months after the effective date of this permit, submit for approval and request to implement the complete approvable Industrial Pretreatment Program.

## B. Effluent Limits

### 1. pH Limit

#### a. Comments:

(1) NTL Alaska requested a change in the upper pH limit from 8.5 to 9.0 standard units; it described the algal bloom cycle during the long light periods in the arctic summer and its effect on raising effluent pH above 8.5. It also asserted that several factors could justify relaxing the limit under exceptions to the anti-backsliding regulations at Section 402(o) of the Clean Water Act (CWA), including new information about the effect of the algal cycle, the fact that the algal cycle is a natural occurrence, and the fact that the City has properly maintained and operated the treatment plant while still violating the 8.5 upper pH limit.

The State also certified 6.0 to 9.0 standard units as daily pH effluent limits.

(2) Alternatively, NTL Alaska suggested moving the compliance point for pH to the edge of the mixing zone certified by the State and setting the limits at the water quality standards of 6.5—8.5 with no more than a 0.5 pH change allowed above background conditions.

The State also certified 6.5 to 8.5 standards units as daily pH limits at the edge of the mixing zone.

#### b. Responses

(1) Regarding the request to raise the upper pH effluent limit to 9.0 standard units, we first reviewed the fact sheet and response to comments for the previous (1988) permit. No explicit discussion addressed the basis of the pH limits in that permit; therefore, we surmised that the 8.5 upper limit must have been a water quality based limit, since the secondary treatment standard (the technology-based limit) was 9.0. We considered the exceptions allowed under the anti-backsliding provisions in Section 402(o)(2) of the CWA and reviewed the effluent data. We found that about 8% of the data during the June – September season in the last seven years showed exceedances of the 8.5 limit. We determined that the new information about the algal cycle that contributes to higher pH of the effluent during the summer months and the fact that the City has consistently operated its treatment plant to achieve compliance with other limits, but has occasionally exceeded the upper pH limit during the algal blooms during the long photo periods in the summer justify the exceptions listed in Section 402(o)(2). Therefore, we decided that relaxation of the upper limit to 9.0 does not violate the anti-backsliding requirements of the CWA. The 9.0 limit corresponds to the secondary treatment standard for pH.

(2) Regarding the alternative request to apply the pH limit at the edge of the mixing zone, we cannot apply permit limits in the receiving water;

they are applied at end of pipe. In some cases, we may calculate adjustments to the end-of-pipe limits based on dilution in the mixing zone, but we do not apply limits within the receiving water, including at the edge of the mixing zone. The water quality standards apply in the receiving water outside the mixing zone allowed by the State, but we do not apply them as permit limits.

c. Action: We changed the upper pH effluent limit to 9.0 in the permit.

## 2. Flow Limit

a. Comment: The State certified a maximum daily flow limit of 0.5 million gallons per day (MGD).

b. Response: On the basis of the State's pre-certification of this limit, we had applied the 0.5 MGD flow limit in the draft permit.

c. Action: No change is needed in the permit.

## 3. Fecal Coliform (FC) Limit

a. Comments:

(1) The State certified fecal coliform limits of 200 FC/100 ml (30 day geometric mean); 400 FC/100 ml (weekly average); and 800 FC/100 ml (daily maximum).

(2) The State certified that at all points outside the mixing zone "the fecal coliform limits shall not exceed a 30 day geometric mean of 20" FC/100 ml and "the daily maximum shall not exceed 40" FC/100 ml.

b. Response:

(1) Because of the State's request, we have changed the monthly average effluent limit from an arithmetic average to a geometric mean of 200 FC/100 ml.

(2) The State's certification that the FC limits outside the mixing zone shall not exceed a 30 day geometric mean of 20 FC/100 ml is a restatement of the ambient water quality standard, which already applies outside the mixing zone. As stated above, EPA does not apply limits in the receiving water.

c. Action:

(1) We added a footnote to the FC monthly limit in Table 1 of the permit to indicate that the limit applies to the geometric mean of the individual data points.

(2) We did not make any changes in the permit to apply limits at the edge of the mixing zone.

4. Total Residual Chlorine (TRC) Limit

a. Comment: The State certified that the TRC effluent limit shall not exceed a daily maximum of 1 mg/l. It also stated that that “a 30 day average limit of 11  $\mu$ /l and a maximum daily limit of 19  $\mu$ /l shall be met at all points outside of the mixing zone.”

b. Response: The 1 mg/l average monthly effluent limit for TRC was included in Table 1 of the draft permit and is retained for the final permit. The “limits” stated for outside the mixing zone are a restatement of the ambient water quality standards (except that they should be 11  $\mu$ g/l and 19  $\mu$ g/l) and not effluent limits that we can apply in the permit.

c. Action: No change was made in the permit.

5. Dissolved Oxygen (DO) Limit

a. Comment: The State certified that the minimum daily DO effluent limit be set at a minimum of 2 mg/l. It also stated that “a minimum daily limit of 7 mg/l and a maximum daily limit of 17 mg/l shall be met at all points outside of the mixing zone.”

b. Response: Because of the State’s pre-certification of the DO effluent permit, we had included the 2.0 mg/l limit, assuming that it was meant as a minimum daily limit. The State’s certification clarified that this is a minimum daily limit.

As stated above, the “limits” stated for outside the mixing zone are restated ambient water quality standards and not effluent limits that we can apply in the permit.

c. Action: No change was made in the permit.

6. Hydrocarbon Limits

a. Comment: The State certified that total aqueous hydrocarbons (TAqH) shall not exceed a maximum daily limit of 15  $\mu$ /l (!) and that total aromatic hydrocarbons (TAH) shall not exceed a maximum daily limit of 10  $\mu$ /l (!). In its Draft Certificate of Reasonable Assurance, it said that these tests (!) should be substituted for the BETX testing.

b. Response: The draft permit included the specified limits because the State had pre-certified these limits, although we interpreted the units as  $\mu$ g/l. The State specified in its final certification that these are maximum daily limits. We assume that the reference to “tests” in the draft certificate really was referring to the limits mentioned in the previous sentence. Once limits are applied, we also require testing to demonstrate compliance, so testing is included in the permit for these parameters.

c. Action: No change was made in the permit.

## 7. Mixing Zone

- a. Comment: The State designated a mixing zone with a dilution ratio of 91:1. Its dimensions in summer (June 1 through September 30) are a maximum length of 9 meters from the end of the outfall line and maximum width of 2 meters; in winter its dimensions are 267 meters from the end of the outfall line and a maximum width of 4 meters.
- b. Response: The dimensions and dilution provided in the State's Certificate of Reasonable Assurance are identical to those provided in its pre-certification. We described those in the Fact Sheet and used them in deriving effluent limits where appropriate.
- c. Action: No change was made in the permit.

## C. Monitoring

### 1. Oil and grease

- a. Comment: NTL Alaska requested deletion of the oil and grease monitoring, asserting that it has not been detected in the effluent and is not likely to be. It says that monitoring TAHs and TAqHs addresses the petroleum hydrocarbons that would be the issue in discharges from the refineries.
- b. Response: EPA recognizes that petroleum hydrocarbons may adequately address the refinery discharges. However, to meet the minimum requirements of the NPDES Application Form 2A, the facility must provide at least three samples in the previous 4½ years of oil and grease monitoring. Furthermore, oil and grease is a common pollutant of concern for pretreatment programs. We decided to decrease the monitoring requirement for oil and grease to annually.
- c. Action: We decreased the effluent monitoring requirement for oil and grease to once per year.

### 2. Pretreatment sampling frequency and type

- a. Comment: NTL Alaska commented that the 3 days within a week requirement in Table 4 for pretreatment program sampling is not consistent with the frequencies listed Table 1. It requested clarification and that all the monitoring be listed in Table 1; it asked that the sample types be consistent.
- b. Response: Pretreatment program sampling is in addition to the effluent sampling in Table 1. We included these parameters in Table 1 to highlight the additional sampling required for these pollutants for the pretreatment program. However, the details of the pretreatment sampling requirements are in § II.A.5 and Table 4. The composite sampling of POTW influent and effluent on three days in a week is a standard sampling requirement for approved pretreatment programs. See § C.3, below, for our modification of this requirement. If the

permittee complies with the §II.A.5 requirements, Table 1 should not require any additional sampling for these parameters.

c. Action: We have modified Table 1 to clarify that influent samples for the pretreatment parameters must be composite. However, the three-times-in-one week requirement is specified in Table 4.

3. Pretreatment Effluent Sample Type

a. Comment: NTL Alaska requested that pretreatment effluent monitoring be changed to grab samples rather than 24-hour composite samples, citing the 15 – 20 day residence time in each of the four lagoons. It claimed that a grab sample is very representative of the effluent over a 24 hour period. The commenter referred to the expense of a composite sampler.

b. Response: We agree that a grab sample at the effluent should adequately represent the discharge from the lagoon.

c. Action: We changed the requirement in Table 4 to grab sample for effluent sampling only; the permittee must still composite the influent samples.

4. Sulfolane monitoring method

a. Comment: NTL Alaska requested that the permit allow a modified EPA method: SW 846 Method 8000B for analysis of sulfolane, since there is no approved EPA method for analysis of this pollutant.

b. Response: Since there is no EPA approved method for this pollutant, we need to see the details of the method being proposed, which is currently used at the Flint Hills refinery and by the City. Consequently, we will require submittal of the description of the method. Also we will modify the language to allow other methods when approved methods do not apply.

c. Actions:

(1) We added a section at §II.B.5.d(1) to require submittal of a description of the sulfolane test procedure to EPA within 60 days of the effective date of the permit.

(2) We added the phrase “unless there are none for that particular parameter” in reference to using EPA approved methods in §§ I.B. 5 and II.B.5.d.

5. Method Detection Limit (MDL) for Ammonia

a. Comment: NTL Alaska requested that we raise the MDL for ammonia to 0.5 mg/l, citing problems with reaching the required level of 0.01 mg/l in a wastewater matrix; it also asserted that ammonia levels from the North Pole facility should be relatively high.

b. Response: We agree that a less rigorous method may be acceptable if the data is always above its MDL.

c. Action: In the text above Table 2, we added an exception to the MDLs in Table 2 when results consistently exceed a higher MDL for another approved method, in which case, that method may be used.

6. Method Detection Limit (MDL) for Chlorine

a. Comment: NTL Alaska asked for an MDL of 0.1 mg/l of total residual chlorine, citing interference likely in the ambient water that would make the lower MDL of 0.01 mg/l difficult to achieve. It also pointed out that we had chlorine listed twice in Table 2.

b. Response: We agree that the 0.01 mg/l MDL for total residual chlorine would be a challenge to achieve.

c. Action: We corrected Table 2 to delete the redundancy and clarify the MDL for total residual chlorine at 0.1 mg/l.

D. Sign on Shoreline

1. Comment: In its Certificate of Reasonable Assurance, ADEC required a sign or signs be placed on the shoreline near the mixing zone and outfall line to inform the public that treated domestic wastewater is being discharged, state that there is a mixing zone and describe it, warn users of the area to exercise caution, and provide the phone number and identity of the discharger.

2. Response: The draft permit included such requirements in § II.E.

3. Action: No change was made to the permit.