



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Environmental
Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File No: 390.38.002

September 2, 2015

Mr. Joe Ehrheart
North Slope Borough
3000 C Street Suite 104
Anchorage, AK. 99503

Re: Decision Document: NSB Atqasuk Power Plant Waste Heat Recovery Line Cleanup
Complete Determination

Dear Mr. Ehrheart:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the NSB Atqasuk Power Plant Waste Heat Recovery Line site. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and this site will be closed. This decision is based on the administrative record for the NSB Atqasuk Power Plant Waste Heat Recovery Line site, which is located in the offices of the ADEC in Anchorage, Alaska. No further remedial action is required.

This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Cleanup Complete determination.

Site Name and Location:

NSB Atqasuk Power Plant-
Waste Heat Recovery Line
Latitude: 70.484220
Longitude: -157.425000

Name and Mailing Address of Contact Party:

Mr. Joe Ehrheart
North Slope Borough
3000 C Street Suite 104
Anchorage, AK 99503

DEC Site Identifiers:

File No: 390.38.002
Hazard ID: 25373

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

The NSB Atqasuk Power Plant Waste Heat Recovery Line site is located generally west of the intersection at Ekosik Street and Tikigluk Street in Atqasuk, Alaska. The city of Atqasuk is located in the arctic zone, about 60 miles south-southwest of Barrow. An ethylene glycol pipeline, which runs through the west side of Atqasuk provides glycol to several structures; including the vacuum building, the washeteria, power plant, clinic, community center, fire station, and school. The city obtains drinking water from the Ikmakrak Lake, which is located about 500 feet west of the site.

In August 2008, roughly 1,500 gallons of ethylene glycol released to a drainage ditch south of the power plant because of a failed “T” in the glycol pipeline (ADEC Spill Number 08399923301). Initial responders pumped the spilled glycol (and water) into 55-gallon drums, placed sorbent pads, and constructed an earthen berm below the outlet of the drainage ditch in an effort to stop migration of contaminants. Soil and water samples were subsequently collected from the drainage ditch and were analyzed for ethylene glycol. Results revealed that ethylene glycol was not present in surface soils above cleanup levels, but was present in surface water at levels up to 1,400 mg/L, which exceeds ADEC groundwater cleanup levels of 73 mg/L. Drinking water was not affected.

Contaminants of Concern

During the investigations at this site, soil and groundwater samples were analyzed for ethylene glycol and/or propylene glycol. Ethylene glycol was the only compound present in soil and surface water above ADEC cleanup levels.

Cleanup Levels

Default soil cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B2, for the migration-to-groundwater (MTG) zone. Default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C.

Table 1 – ADEC Cleanup Levels

Contaminant	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (mg/L)
Ethylene Glycol	190	73

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

Characterization and Cleanup Activities

In addition to the 2008 release, a second release of approximately 900 gallons ethylene glycol occurred in 2010 (ADEC Spill Number 1039914401). The 2010 release was caused by heavy equipment shearing the pipeline during snow plowing activities. Initial response efforts recovered about 700 gallons of ethylene glycol.

Both the 2008 and the 2010 glycol releases were investigated in August 2010. Thirty-four (34) soil and water samples were selected for Hach glycol field screening tests based on source area locations and preferential pathways (drainage paths). Based on screening results, 13 soil samples and 9 water samples were submitted for laboratory analysis of ethylene glycol. Ethylene glycol was not detected above laboratory detection limits in any of the surface water samples, but was present in two soil samples near the washeteria building at 17 mg/kg and 350 mg/kg. The MTG cleanup level for ethylene glycol is 190 mg/kg. Because of access restrictions, further investigation was not possible beneath the washeteria building, where glycol contamination was suspected.

A final site characterization was completed in July 2015 to re-evaluate impacts to surface soil and surface water from the 2008 and 2010 releases. Ethylene glycol was not detected above laboratory detection limits in any of the surface soil samples, but was present in a surface water sample (collected from a culvert near the 2008 failed “T”) at 0.940 mg/kg, which is well below the cleanup level of 73 mg/L.

Cumulative Risk Evaluation

Pursuant to 18 AAC 78.600(d), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination remains in the sub-surface, but is below the most stringent MTG cleanup levels.
Inhalation – Outdoor Air	De-Minimis Exposure	Contamination remains in the sub-surface, but is below the most stringent MTG cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are built on pilings, above ground.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not contaminated and is not used as a drinking water source in the vicinity of the site.
Surface Water Ingestion	De-Minimis Exposure	Contamination may remain in small ponded areas, but is well below cleanup levels and is not present in the drinking water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Site is not located in an area that would be reasonably used for foraging or subsistence activities.
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial or aquatic exposure routes present.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC’s judgment contamination has no potential to contact receptors. “Exposure Controlled” means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.

ADEC Decision

This site will receive a "Closed" designation on the Contaminated Sites Database, subject to the following standard conditions:

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 269-7691 or via email at Joshua.Barsis@alaska.gov.



Joshua Barsis
Project Manager