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: 2320.38.001

June 6, 2017

Brad Platt
Federal Aviation Administration
222 West 7th Avenue, Box 14
Anchorage, AK 99513

Re: Decision Document: FAA Kenai ARSR AOC 01 Ethylene Glycol
Cleanup Complete Determination

Dear Mr. Platt:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the FAA Kenai ARSR AOC 01 Ethylene Glycol site located off of Borgen Avenue, Kenai, Alaska. 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 no further remedial action will be required unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the FAA Kenai ARSR AOC 01 Ethylene Glycol, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
FAA Kenai ARSR AOC 01 Ethylene Glycol
Off of Borgen Avenue
Kenai, AK 99611

Name and Mailing Address of Contact Party:
Brad Platt
Federal Aviation Administration
222 West 7th Avenue, Box 14
Anchorage, AK 99513

DEC Site Identifiers:
File No.: 2320.38.001
Hazard ID.: 25644

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

The FAA Kenai Station consists of or has consisted of various navigation, communications, quarters, runway, and surveillance related structures. The station has numerous areas of concern, and numerous contaminants of concern; however, this cleanup complete determination focuses solely on the ethylene glycol contamination at the glycol pumps at the Air Route Surveillance Radar (ARSR) facility. The ARSR

facility is approximately 3 miles from the runway. All other areas of concern and contaminants of concern have been previously cleaned up and closed out.

The glycol pumps were located on a concrete pad east of building 409 at the ARSR. In 1993, as part of a preliminary assessment and site inspection (PA/SI), one composite sample was collected from surface soils adjacent to the glycol pumps. The sample revealed a presence of ethylene glycol at 15,000 mg/kg in soil.

Contaminants of Concern
During the site characterization and cleanup activities at this site, samples were collected from soil and a drinking water well and analyzed for ethylene glycol. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Ethylene Glycol

Cleanup Levels
Ethylene glycol was detected in surface soil above the cleanup levels established in 18 AAC 75.341 (d), Table B2. The most stringent of the cleanup levels apply to this site.

Table 1 – Approved Cleanup Levels

Contaminant	Soil, Migration to Groundwater (mg/kg)	Soil, Human Health (mg/kg)	Groundwater (ug/L)
Ethylene Glycol	110	100,000	40,000

mg/kg = milligrams per kilogram
ug/L = micrograms per liter

Characterization and Cleanup Activities
In 1993, one composite sample was collected from surface soil adjacent to the glycol pumps. The sample revealed a presence of ethylene glycol at 15,000 mg/kg in soil. From additional work conducted at the site it is known that the groundwater in the area is 10-20 feet below ground surface, and that groundwater flows in a generally southwest direction.

There is one drinking water well approximately 20 feet north east (upgradient) of building 409 which was documented as "clean" in the 1993 PA/SI for all contaminants analyzed, including ethylene glycol. The analytical value itself for ethylene glycol was not documented.

The ethylene glycol release was not fully characterized during post 1993 site activities for unknown reasons. It is unknown whether or not ethylene glycol contamination ever reached the groundwater. However, ADEC has determined that due to the old age (24 years or greater) of the ethylene glycol release and its chemical properties that result in relatively rapid break down in the environment, any ethylene glycol contamination remaining at the site does not pose a current environmental or human health risk.

Scientific literature strongly documents that ethylene glycol readily degrades in the environment due to the relatively short half-life and reactivity with other environmental compounds. In air, ethylene glycol often degrades within a few days; and in water and soil, ethylene glycol often degrades within a few weeks,

dependent upon and varying with concentrations and environmental conditions. Scientific literature also consistently documents that ethylene glycol degrades quicker in fresh water compared to salt water; degrades quicker in warmer temperatures compared to cooler temperatures; and is accelerated by the presence of many species of naturally occurring soil bacteria.

Cumulative Risk Evaluation

Based on a review of the environmental record, ethylene glycol was the only contaminant of concern at this site, it is expected to have naturally attenuated over the past 24 years and thus, ADEC has determined that any residual glycol concentrations would not pose an unacceptable 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 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	De-Minimis Exposure	Residual contamination is below the most stringent cleanup levels in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Residual contamination is below the most stringent cleanup levels in sub-surface soils.
Inhalation – Outdoor Air	De-Minimis Exposure	Residual contamination is below the most stringent cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Residual contamination, if any, is below the most stringent cleanup levels.
Groundwater Ingestion	Pathway Incomplete	Residual contamination, if any, is below the most stringent cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Contamination did not impact surface waters.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Contamination did not impact ecological receptors.

Notes to Table 2: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely 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.

ADEC Decision

ADEC has determined that due to the old age (24 years or greater) of the ethylene glycol release and its relatively rapid environmental degradation, ethylene glycol contamination at the site is expected to have attenuated to concentrations below the approved cleanup levels suitable for residential land use and does not pose a current environmental or human health risk.

This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325(i). 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.

3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

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 contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to the environment.

Appeal

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, 555 Cordova Street, Anchorage, Alaska 99501-2617, 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, PO Box 111800, 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) 269-7556, or email at kara.kusche@alaska.gov.

Sincerely,

Kara Kusche

Kara Kusche
Environmental Program Manager

cc: Spill Prevention and Response, Cost Recovery Unit