Port of Seattle

December 22, 1993

Ms. Barbara H. Stuhring
24828 9th Pl S.
Des Moines, Washington 98198

RE: Your letter of November 17th to Mr. Paradee regarding the use of ethylene glycol at the Sea-Tac Airfield

Dear Ms. Stuhring:

Your letter has been forwarded to me for response. Please excuse the delay. With regard to the use of ethylene glycol: The Federal Aviation Administration (FAA) approves or disapproves the use of deicing agents on airplanes. The Port of Seattle has no control over what is used on airplanes. The airlines do the deicing of their airplanes, not the Port, and must comply with all FAA regulations. Currently, the FAA allows only, and I stress only, the use of ethylene or propylene glycol. The airlines are not allowed to use any other chemicals for deicing.

All deicing of airplanes occurs at the terminals or near hangers. I wish to stress that the areas where airplanes are deiced drain to the airfiled waste water treatment system, where the water is treated and then discharged to Puget Sound via a long outfall. These waters are not discharged to either Des Moines or Miller's creeks. The Port's treatment plant is not designed to treat glycols. However, the Port is currently evaluating alternative ways of modifying or adding to the treatment plant to treat the glycols. Again, I want to stress that these waters are not discharged to either Miller or Des Moines Creeks.

The Port has not yet received a new permit from the Department of Ecology and therefore we do not know the new requirements. The Port does anticipate the new permit will have a larger list of parameters that must be sampled for and treated to new, lower concentrations. But we do not know at this time what they will be. You may wish to contact the Department of Ecology regarding their schedule for completing the Port permit.

With regard to a "testing tank" referred to in the newspaper article: the question of using a holding tank is something to consider during the evaluation of a new or modified treatment plant. We do not know if there will be such a requirement in the new permit. However, the Port has and will in the future do what are called "bioassays" which is a test that is similar in concept to a "holding tank".

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March 14, 1996

David Aggerholm
Port of Seattle
P.O. Box 1209
Seattle, WA 98111

Dear Mr. Aggerholm:

Please see attached from the Final EIS. Did you write the answer? Certainly not, because your letter to me of December 22, 1993 said just the opposite.

What can you do to clarify the mistake?

Sincerely yours,

Barbara Stuhring

Barbara H. Stuhring
24828 9th Pl. S.
Des Moines, WA 98198

Comment R-13-15: Three commentors requested discussion of the potential effects of deicing fluid on Miller and Des Moines Creeks. Comments received from Mr. Brazil, Mr. Bolles, Ms Matthews,, and Mr. Smith.

Response: As discussed in Chapter IV, Section 10 of the Draft and Final EIS (page IV.10-4), solutions containing glycols, urea, and potassium acetate are used for de-icing and anti-icing aircraft and runways at the Airport. Glycols have been detected in stormwater runoff from the Airport As indicated in Chapter IV, Section 10 of the Final EIS (page IV.10-6), the *Annual Stormwater Monitoring Summary Report* reported concentrations of deicing fluids in stormwater runoff ranging from <5 to 479 mg/L. Glycol quantities resulting in observed concentrations in stormwater runoff in this range are generally small compared to the volumes used during deicing events. For example, about 58 gallons of glycol would be required to produce the concentration of 275 mg/L observed at Outfall 003 on February 17, 1995. These volumes represent a small fraction of the total volume of deicing and anti-icing fluids used during a typical application. Most of the anti-icing and deicing fluids used during airport operations are contained and treated by the Port's Industrial Wastewater System.

Glycols have a high biochemical oxygen demand (BOD). Decomposition of glycols (and other chemicals with high BOD) may depress dissolved oxygen levels. As indicated in the discussion in Chapter IV, Section 10, these fluids are used and present in stormwater runoff during colder months when dissolved oxygen levels are high or saturated and streamflow volumes are high; thus, they are diluted and their effects on BOD minimized. Also, the quantities present in stormwater runoff are small (e.g., a few gallons). Because of these factors, deicing and anti-icing fluids are not expected to contribute to a reduction in dissolved oxygen levels in Miller and Des Moines Creeks that is lethal to aquatic biota.

Concentrations of glycols observed in stormwater runoff, potential impacts on water quality, and the toxicity of glycols to aquatic biota are discussed in Chapter IV, Section 10 "Water Quality and Hydrology" and Section 16 "Plants and Animals" of the Final EIS and in Appendix M.

Comment R-13-16: Ms. Stuhring requested that the source of airport activity generated ammonia be identified.

Response: As indicated in Chapter IV, Section 10 of the Draft EIS (page IV.10-5 of the Final EIS), ammonia comes from the degradation of urea, which is used to de-ice runways.

Comment R-13-17: Ms. Batayola (Seattle Water Department) requested that confirmation be obtained from the Washington Department of Ecology on the status of groundwater contamination clean-up activities.

Response: As stated in Chapter IV, Section 10 "Water Quality and Hydrology" of the Draft and Final EIS, there are several areas of localized contamination of perched (i.e., on top of glacial till) and shallow (upper aquifer) groundwater resources from leaking underground storage tanks and fuel distribution systems. No contamination has been observed of the deeper Highline aquifer, which is used as a source of drinking water. As stated in Chapter IV, Section 7 "Human Health" and Chapter IV, Section 10 "Water Quality and Hydrology", these localized areas of contamination are in various stages of characterization, monitoring, and remediation (i.e., clean-up).

Some of the localized areas of groundwater contamination have been characterized and cleaned up. At others, the contamination is in the process of being characterized and appropriate remediation to protect environmental and human health would follow. Management of groundwater contamination at the Airport is being conducted according to all applicable environmental regulations, including the Washington Model Toxics Control Act (MTCA). The Washington Department of Ecology (Ecology) is responsible for implementation of MTCA, including listing areas or sites of known contamination and delisting sites as clean-up activities are completed. Ecology has confirmed that some areas of contamination have been cleaned up. Additional discussion on the status of remediation activities and

Port of Seattle

April 26, 1996

Ms. Barbara Stuhring
24828 9th Place South
Des Moines, WA 98111

Dear Ms. Stuhring;

This letter is in response to your letter dated March 14, 1996 which included a photocopy of page R-173 from the *Sea-Tac Airport Master Plan Update Final EIS* and a reference to correspondence dated December 22, 1993, from Dave Aggerholm. As stated in that earlier correspondence, glycol is applied to aircraft in the terminal area where surface water drains to the Industrial Wastewater System (IWS). Small amounts of glycol can drip off the aircraft during taxi and take-off and become mixed with precipitation and eventually wash into the storm water collection system and enter receiving streams. Page IV.10-6 of the *Sea-Tac Airport Master Plan Update FEIS* discusses the impact of de-icing chemicals on Miller and Des Moines Creeks.

Sincerely,

Thomas P. Hubbard

Thomas P. Hubbard
Environmental Management Specialist II

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May 4, 996

Thomas Hubbard
Port of Seattle
P.O. Box 1209
Seattle, WA 98111

Dear Mr. Hubbard:

I wrote Mr. Aggerholm on March 14, 1996 and you answered for him in a letter to me dated April 26, 1996.

I asked Mr. Aggerholm if he wrote this statement for the Final EIS for the Master Plan Update and Third Runway - "anti-icing and de-icing fluids used during airport operations are..... treated by the IWS". Please tell me:

1. The Port's IWS is not equipped to treat glycols, is it?

2. The Final EIS indicates the IWS does treat glycols, is that correct?

3. The Final EIS is wrong, is it not?

Thank you for answering my questions.

Sincerely yours,

Barbara Stuhring

Barbara H. Stuhring
24828 9th Pl. S.
Des Moines, WA 98198

cc: Mr. Aggerholm

Port of Seattle

May 21, 1996

Ms. Barbara Stuhring
24828 - 9th Place South
Des Moines, Washington 98198

Dear Ms. Stuhring:

Tom Hubbard of the Port of Seattle has requested that my office prepare a response to your May 4, 1996 letter concerning the reference to treatment of glycols by the IWS at Seattle-Tacoma International Airport contained in Appendix R of the Master Plan Update Final Environmental Impact Statement. The final sentence in the first paragraph of the response to comment R-13-15 (Volume 4, Page R-173) "Most of the anti-icing and deicing fluids used during airport operations are contained and treated by the Port's Industrial Wastewater System" is incorrect. You are correct in stating that glycol is not treated and removed by the Industrial Wastewater System. The sentence in this response to comment should have read as follows: "Most of the anti-icing and deicing fluids used during airport operations are contained but not treated by the Port's Industrial Wastewater System" (*underlined works reflect the correction*).

Based on your earlier correspondence as well as this follow-up, we have recommended to the FAA that the Record of Decision include this letter to reflect the correction to the Final EIS. Again, thank you for bringing this to our attention.

Sincerely,

Barbara Hinkle

Barbara Hinkle

Senior Specialist II
Health, Safety & Environmental Management

cc: Dennis Ossenkop, FAA
Tom Hubbard, Port

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