

**Freedman, Jonathan R NWS**

*Rozeboom*  
EXHIBIT NO. *237*  
*2-5-02*  
M. Green

**From:** Bill Rozeboom [BRozeboom@nhc-sea.com]  
**Sent:** Wednesday, September 06, 2000 11:19 AM  
**To:** Fitzpatrick, Kevin  
**Cc:** Yee, Chung K.; Glynn, John; Freedman, Jonathan R  
**Subject:** Status of response to July 31 comments on SeaTac 3rd Lagoon Expansion

Mr. Fitzpatrick:

Are you or Chung Yee able to respond yet to the comments presented on July 31?

Patiently,

Bill Rozeboom

"Fitzpatrick, Kevin" <KFIT461@ECY.WA.GOV> on 07/31/2000 05:11:34 PM

To: 'Bill Rozeboom' <BRozeboom@nhc-sea.com>  
cc: "Yee, Chung K." <cyee461@ECY.WA.GOV>, "Glynn, John" <JGLY461@ECY.WA.GOV>

Subject: RE: Initial comments on SeaTac 3rd Lagoon Expansion

Mr. Rozeboom: I am copying Chung Yee, the current permit manager for the Sea-Tac Airport NPDES Permit, on this reply. Chung Yee will try to address the questions that you have raised regarding the IWS Engineering Report Addendum and the expansion of the lagoon #3 in the IWS system. Please keep in mind that Chung Yee has only recently been assigned the Sea-Tac Airport NPDES Permit and there is extensive file review and research that he must do in order for him to thoroughly familiarize himself with this complex facility and the equally complex environmental issues associated with it.

Thank you for consideration and patience during this time as Chung Yee brings himself up to speed on the permit.

Kevin C. Fitzpatrick  
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Water Quality Program, NWRO  
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-----Original Message-----

From: Bill Rozeboom [mailto:BRozeboom@nhc-sea.com]  
Sent: Monday, July 31, 2000 11:38 AM  
To: tlus461@ECY.WA.GOV; Jonathan.R.Freedman@NWS02.usace.army.mil  
Cc: RHEL461@ECY.WA.GOV; KFIT461@ECY.WA.GOV  
Subject: Initial comments on SeaTac 3rd Lagoon Expansion

This is to record our initial comments following a review of materials describing the SeaTac International Airport Industrial Wastewater System (IWS) Lagoon # 3 Expansion Project. The focus of our review was to identify issues in that project which need to be addressed concurrently with plans for 3rd runway expansion and the stormwater Management Plan for other (non-IWS) Master Plan Update Improvements. We did not review the lagoon expansion documents for water quality issues.

The documents considered in our review are listed below.

- IWS Engineering Report, December 1995 by Kennedy/Jenks Consultants
- Addendum to IWS Engineering Report, April 1998 by Kennedy/Jenks Consultants
- Comment letter on the April 1998 Addendum, June 9, 1998 by Dept of Ecology.
- Full-size construction plans (58 sheets) dated 3/13/00 for Lagoon #3 expansion.  
(Plan Title Sheet indicates Work Order No. C-100888, Project No. STIA-0009-T-1.)
- Project Manual with specifications for Lagoon #3 expansion, March 16, 2000.

Our comments follow.

1. The available design documents do not describe what is being proposed for construction. The project manual which accompanies the construction plans indicates that the scope of work includes the expansion of an existing 26 million gallon lagoon to approximately 72 million gallons (MG). However, the recommended enlargement proposed in the engineering report is to only 47 MG.

The reasons for the difference are not known. Data in the engineering report indicate that the required lagoon size is very dependent on the available release rate—the 47 MG size required an release rate of 4 MGD while a larger size of 67 MG would be required if the release rate was 2 MGD. The design documents in hand do not explain the basis for the 72 MG design, the presently-anticipated release rate, or what treatment facilities will receive the discharge.

2. If the sizing calculations in the 1998 addendum report reflect the criteria and procedures used for final design, then frequent overflows into the natural drainage channels (specifically Des Moines Creek) should be expected. Addendum Appendix D describes that a continuous routing model (Excel spreadsheet) found that the lagoon would fill to capacity under the condition of a 6-month 24-hour storm. The report indicates an intent to hold a 25-year 24-hour storm, but it appears that the 25-year storm event analysis ignored winter antecedent conditions and assumed that the lagoon was empty at the start of a rainfall event which lasted only 24 hours. If this same method of event analysis was used for the final design, overflows into the natural drainage systems should be expected to occur several times each year, and would need to be controlled in SDS (Storm Drain System) peak flow control detention facilities.

The June 9, 1998 comment letter from Ecology, states in item 5, "An important consideration for the sizing of the expanded lagoon 3 is the estimated frequency of bypass that may occur. I would like more information on the predicted frequency of bypass using continuous flow modeling and the

NOAA rain data for Sea-Tac Airport." We do not know whether this analysis was performed or what the results were. The results are definitely important for design of peak flow control facilities for the project Stormwater Management Plan.

4. The expanded lagoon will have waterfowl-attractant issues/concerns similar to those for the proposed expansion to the Miller Creek Regional Detention Facility. There is no mention in the 1998 engineering report of the 1997 FAA Advisory Circular guidelines on this issue, and no assessment on the expected duration of standing water at the expanded facility. A strict interpretation of the FAA guidelines suggests that an expanded (i.e., new) wastewater lagoon at the location of the proposed expansion is incompatible with safe aircraft operations.

Pertinent regulations and guidelines are discussed in the November 1999 SMP for the airport, pages 2-8 through 2-13. The FAA guidelines in Advisory Circular 150/5200-33 dated 5/1/97, titled "Hazardous Wildlife Attractants on or Near Airports" may be found at

<http://www.nw.faa.gov/airports/wildhaz.html>.

The proposed third lagoon expansion will be used to store (and possibly pre-treat) liquid industrial wastes and would therefore fall under the FAA definition of a wastewater treatment facility. Section 2 of the FAA Advisory Circular, "Land Uses that are Incompatible with Safe Airport Operations" recommends that any new wastewater treatment facilities or associated settling ponds be sited no closer than 10,000 feet from turbine aircraft movement areas. The existing third lagoon is located within 2,000 feet of the runway, and the proposed expansion area is all within 1,000 feet of the runway.

5. Appendix D of the 1998 addendum report identifies five "existing Lagoon #3 deficiencies that must be corrected." Most of these are addressed by the proposed construction plans. However, the plans do not include any remedy for the following identified deficiency: "Installing a floating cover on the lagoon. The cover will be easily removable for lagoon cleaning and specifically designed to move up and down to follow lagoon water level."

6. The plan set title sheet (Plan Sheet STIA-009-T-1) lists four plan sheets, C-31 through C-34, which are crossed out and marked "N.I.C." (Not In Contract). These sheets were for runway embankment site grading and drainage. It seems curious that the 3rd runway construction sheets were to have been included as part of a contract for the Lagoon #3 expansion. We had been informed that the Lagoon #3 expansion and related IWS work was not included in the Master Plan Update Improvements because the IWS work was separate and distinct from the 3rd runway and the Master Plan Update Improvements.

7. Plan sheet STIA-0009-G-3 shows the "Contractor Haul Route to Third Runway Fill Area" and also the (3rd runway) "AOA Fill Area Stockpile Location." A cross-check of the stockpile location area against wetland maps presented in the Master Plan Update Improvement documents shows that the stockpile area covers several wetlands, specifically Wetlands W1, W2, 16, 7, 18, and 19. The contract bid document does require an alternate bid in which the Third Runway Stockpile is deducted and an equivalent volume (75,000 c.y.) of off-site material disposal is added. This comment is also intended to question the review

and permitting of the Lagoon #3 expansion work as an action which is separate from the other Master Plan Update Improvements.