ISSUES RELATED TO ECOLOGY'S SECTION 401 WATER QUALITY CERTIFICATION REVIEW OF THE PROPOSED SEATAC AIRPORT EXPANSION

General Issues: background on the review process –

- Requirements for 401 certification:
  - "Reasonable assurance"
  - Interaction of Sections 401 and 402 of the federal Clean Water Act

Specific Issues Related to Aquatic resource Protection: to be resolved as part of Ecology's 401 review –

- Determine direct, indirect, and cumulative impacts and identify necessary mitigation
- Determine compliance with other associated aquatic resource-related regulations
- Determine standards for "clean fill" material
- Develop an acceptable stormwater plan
- Develop an acceptable streamflow augmentation plan
- Develop an acceptable wetland impacts and mitigation

GENERAL ISSUES:

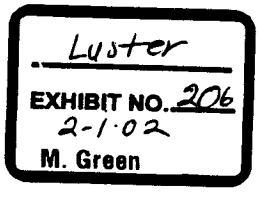
My primary job duty has been to ensure that our 401 decisions result in clean water. For most proposed projects, this means looking at the full range of known or anticipated impacts associated with the construction and operation of a project, reviewing those impacts against the water quality standards, and determining if the standards will be met and what permit conditions are needed to ensure they are met.

With regards to the proposed SeaTac expansion, the intent of my review throughout the process was to develop a fully defensible 401 decision to ensure that applicable water quality regulations would be met.

Requirements for 401 certification:

The basic requirement of Ecology's review has remained the same throughout the history of this proposed project – to determine whether the proposal will meet the state's water quality standards. The three main questions to be answered with regards to meeting the standards are:

- Will the proposed discharges (construction and operational) meet antidegradation requirements (i.e., no further degradation in the waterbody, and no degradation below a certain level)?
- Will these discharges allow beneficial uses (such as fishing, recreation, water supply, etc.) to be met in the affected waterbodies?
- Will they meet the applicable numeric and narrative water quality criteria?



The federal Clean Water Act and the state water quality standards are structured to apply both to discharges and to the waterbodies being discharged to. Ecology's obligation under the regulations is to review proposed projects to ensure both that the contaminant levels in a proposed discharge meet the water quality standards and that the receiving waterbody is meeting the standards. Essentially, the mechanisms of the Clean Water Act (i.e., permit review under Sections 401 and 402) are intended to result in meeting the goals of the Act (i.e., fishable and swimmable waters, the elimination of toxic discharges, etc.).

"Reasonable Assurance": Review under Section 401 requires Ecology to have "reasonable assurance" that the water quality standards will be met. "Reasonable assurance" is a term of law meaning we must have a "preponderance of evidence" showing that the proposed actions will meet the standards. In addition, "reasonable assurance" recognizes that there is some uncertainty with the decision, given that the proposed actions will occur sometime in the future and cannot be fully predicted. Therefore, once we have the necessary "preponderance of evidence" showing that standards will be met, we can then include conditions that address the remaining areas of uncertainty – for example, conditions can be added to the 401 permit that require monitoring, compliance inspections, review and approval of any design changes, etc.

Interaction of 401 and 402: Another key point in Ecology's review on this particular project is the interaction of two different sections of the Clean Water Act. The proposed SeaTac expansion requires approvals under both Section 401 of the Act (water quality certification) and Section 402 of the Act (NPDES discharge permits). While these sections of the Act are both meant to ensure compliance with water quality standards, they take a different approach that must be rectified when a proposal requires approvals under each.

The Clean Water Act includes different requirements for permit review under Sections 401 and 402. The essential difference is that Section 401(d) establishes that a certification must include all necessary effluent limitations to ensure standards are met, and Section 402(a) allows a permit to either include those limitations or other appropriate measures that will eventually lead to the standards being met.

Ecology has recognized this difference by drafting a policy between its Water Quality Program, which implements Section 402, and its Shorelands and Environmental Assistance Program, which implements Section 401. This policy establishes a review process for proposed projects requiring both permits. Key language of this policy includes the following:

> "When a project's discharges are covered by an Individual 402 Permit, and the project is in compliance with that permit as determined by the Water Quality Program, the 401 Certification will require compliance with the Individual 402 Permit as adequate for compliance with the water quality standards, however additional 401 Certification conditions may be necessary to address compliance for stormwater and other water quality impacts or project areas not covered by the 402 Permit."

...and:

> "For projects that have not yet obtained a required 402 Permit, the 401 Certification will be held in abeyance for a maximum period of one year, or denied without prejudice until the 402 Permit is received. A 401 Certification can not be approved if a required 402 Permit has not yet been received because reasonable assurance that the standards will be met can not be determined on a proposed future permit."

This difference is also recognized in Ecology's draft Stormwater Management Manual (from Section 1.9.8):

> "For projects that require a fill or dredge permit under Section 404 of the Clean Water Act, Ecology must certify to the permitting agency, the U.S. Army Corps of Engineers, that the proposed project will not violate water quality standards. In order to make such a determination, Ecology may do a more specific review of the potential impacts of a stormwater discharge from the construction phase of the project and from the completed project. As a result of that review, Ecology may condition its certification to require:
>
> - Application of the minimum requirements and BMPs in this manual; or
> - Application of more stringent requirements."

In essence, when a proposed project requires approval under both Section 401 and Section 402, Ecology must base its 401 decision on whether it has "reasonable assurance" that the 402-regulated activities are meeting the 401 requirement that all applicable effluent limitations be met.

SPECIFIC ISSUES RELATED TO AQUATIC RESOURCE PROTECTION:

As of last October, when I was moved to other duties, none of the following aquatic resource-related issues had been fully resolved for purposes of 401 certification. We were awaiting further information from the Port on many of these issues and were anticipating receipt of public comments during the public comment period that started several weeks ago.

Determine the direct, indirect, and cumulative impacts of the proposal, and identify necessary mitigation:

Ecology's review of this proposed project changed a number of times over the past several years as new information became available about various aspects of the projects. One of the largest areas of change was in determining the extent of the direct, indirect and cumulative impacts associated with the proposed SeaTac expansion.

As of last October, Ecology had not yet determined the full or final extent of project-related impacts. Some examples include:

- Auburn wetland mitigation site: the Port had recently informed us that new information about the proposed Auburn wetland site showed existing wetlands at the site were more extensive than originally determined. This had the potential to change the amount and type of wetland mitigation that would be required for the anticipated wetland impacts.

- Proposed South Access Road and expansion of State Route 509: we had not yet fully determined the relationship between these proposed projects and the airport expansion, and had not determined the full extent of wetland impacts due to the proposed road projects.

- Proposed expansion of Industrial Waste System Lagoon #3: the proposed expansion of IWS Lagoon #3 will result in about 10 acres of additional impervious surface being added just north of Wetland 28. This indirect hydrologic impact had not yet been evaluated. In addition, Appendix D of the 1998 Lagoon #3 Expansion Hydrologic Report identifies several deficiencies in the current lagoon that must be corrected as part of the expansion, including reconstructing the eastern containment dike and relocating stormwater piping in the ravine to the east of the lagoon. The area immediately east of the lagoon consists largely of wetlands that have so far been described elsewhere in Port documents as not being impacted by the Port expansion project. This may result in additional direct impacts that have not yet been addressed, and may require additional approvals from Ecology in the form of dam safety permits.

- Ongoing impacts to Northwest Ponds (the "De-icing Study"): the Port's report on de-icing submitted to Ecology last year identified several impacts to waters of the state that have not yet been addressed through either the 401 review or the 402 permitting process. These include the apparent use of the Northwest Ponds as a de facto but unapproved mixing zone for several contaminants (i.e., low dissolved oxygen levels, high metals concentrations) at levels beyond the water quality criteria.

  Ecology provided comments to the Port on this initial report, and is expecting a supplemental report sometime in the near future that addresses these comments. These impacts should be evaluated and mitigated through the 401 review process if they are not first addressed through a modification to the NPDES permit. Options include improved source control or stormwater treatment BMPs, or additional mitigation to make up for any loss of wetland functions in the Northwest Ponds due to this ongoing, unapproved impact.

Determine compliance with other associated aquatic resource-related regulations:

Ecology had received comments this past fall regarding the Federal Aviation Administration's (FAA) and Port's compliance with requirements of the National Environmental Policy Act (NEPA). Ecology does not implement this federal law, but the outcome of the FAA's determination could affect the Port's compliance with the State Environmental Policy Act (SEPA), which is a required part of Ecology's review. If there are required changes to NEPA that result in necessary changes to existing SEPA documents, then Ecology must wait until those SEPA changes are completed before making its 401 decision.

In addition, Ecology was expecting comments on whether the Port's current proposal as described in the Corps/Ecology Public Notice for 401 review was in compliance with the requirements of the Governor's certification letter to the FAA several years ago. We were awaiting the final project description to determine whether it met requirements of the Clean Air Act and the Agreed Order for cleanup activities, as described in the Governor's letter.

Determine standards for "clean fill" material:

Ecology had not yet completed its evaluation of what types of material were and were not acceptable to use as clean fill in the airport expansion project. Our evaluation was based on ensuring that fill material would allow groundwater to move through the material to emerge as surface water and not exceed surface water quality standards

Development of an acceptable stormwater plan:

Adequacy of stormwater treatment: at the time of my review, I did not yet have reasonable assurance that the Port's proposed stormwater discharges would meet the applicable water quality criteria; in fact, the documentation I was aware of showed that several criteria would be exceeded. The literature available on the subject of stormwater Best Management Practices (BMPs) showed that the BMPs being proposed by the Port were not adequate to treat stormwater discharges to levels below the criteria for several metals and for fecal coliform. In addition, the Port's annual monitoring reports and recent Discharge Monitoring Reports (DMRs) showed that stormwater discharges to Des Moines and Miller Creeks often had concentrations of several contaminants above the water quality criteria.

The first proposed stormwater management plan submitted by the Port as part of Ecology's 401 review in 1998 included essentially the same BMPs that were being used at the airport at that time and were resulting in the above-noted exceedances. Ecology did a "reasonable potential analysis" based on the known discharges and the modeled effectiveness of those BMPs and determined that they were not effective enough to adequately treat the Port's stormwater discharges to meet several acute water quality criteria. As a result, Ecology's original 401 issued in 1998 required the Port to "double-up" on its BMPs in order to provide more treatment. That original stormwater plan and 401 certification were withdrawn shortly after the 401 was issued, based on new information about wetland impacts. Ecology, however, did consider the stormwater requirements of that 401 as the "baseline" for any future 401s that might be issued.

When the Port submitted its next proposed stormwater plan, Ecology contracted with King County to provide additional expertise to review the Port's proposal. Over the past year or so, Ecology and the County have been working with the Port to ensure first that their proposed stormwater management plan met the minimum requirements of the Ecology and King County stormwater manuals, and then to determine what additional measures might be needed to ensure the stormwater discharges would meet water quality standards.

As of October of this year, the proposed stormwater plan under review included only the minimum BMPs required under the King County stormwater manual (which are similar to what is in place at the airport now) and did not include all the BMPs required under Ecology's previous certification. I had anticipated that any additional source control or treatment requirements would be evaluated after the County had determined the proposed plan met the minimum technical requirements of the two manuals. This delay in the additional evaluation was due to the likelihood that the County's review would result in additional stormwater detention above what is currently in place at the airport. This additional detention was likely to provide some additional treatment before stormwater flows were discharged to the local creeks.

This anticipated evaluation for additional treatment requirements was important for reaching a defensible 401 decision for several reasons:

- the new and expanded stormwater discharges anticipated from the proposed project are similar to those currently being discharged from the Port; therefore, the effectiveness of the existing BMPs and the resulting water quality exceedances are likely to be similar.
- the state's water quality standards do not allow a compliance schedule for new discharges. Because Ecology must at the time of its 401 decision have "reasonable assurance" that the standards would be met, there must be some measures taken to improve the performance of the existing BMPs.
- a recent Ninth Circuit Court decision (Defenders of Wildlife v. Browner) suggested that stormwater discharges associated with industrial NPDES permits (such as the one held by the Port) were subject to water quality based standards (i.e., numeric water quality criteria). The Court's decision included the following:

> "As is apparent, Congress expressly required industrial storm-water discharges to comply with the requirements of 33 U.S.C. S 1311. See 33 U.S.C. S 1342(p)(3)(A) ("Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 of this title.") (emphasis added). By incorporation, then, industrial storm-water discharges "shall . . . achiev[e] . . . any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulation (under authority preserved by section 1370 of this title)." 33 U.S.C. S 1311(b)(1)(C) (emphasis added); see also Sally A. Longroy, The Regulation of Storm Water Runoff and its Impact on Aviation, 58 J. Air. L. & Com. 555, 565-66 (1993) ("Congress further singled out industrial storm water dischargers, all of which are on the

> high-priority schedule, and requires them to satisfy all provisions of section 301 of the CWA [33 U.S.C. S 1311]. . . . Section 301 further mandates that NPDES permits include requirements that receiving waters meet water quality based standards.") (emphasis added). In other words, industrial discharges must comply strictly with state water-quality standards."

Without fully incorporating the above factors into the review, I was concerned that we would not have a fully defensible 401 decision.

Development of an acceptable streamflow augmentation plan:

During Ecology's 401 review, the Port provided documentation showing that the fill placed for the South Aviation Support Area (SASA) and the impervious surface associated with that development would diminish stream flows in Des Moines Creek to some degree. Ecology had also reviewed the Des Moines Creek Basin Plan, which had been prepared by King County, the Port, and several local jurisdictions, which showed that the creek experienced a number of problems due to existing development in the watershed and would likely experience increased problems due to proposed or expected future development. Among the problems were some violations of water quality standards caused in part by low summer streamflows.

Given this documentation, we informed the Port that part of their proposed mitigation package had to include an acceptable form of streamflow augmentation to prevent and minimize existing and anticipated impacts to the creek. As part of Ecology's 401 approval, the Port had to provide a confirmed source of flow augmentation water and a confirmed treatment system, if necessary, to ensure that the augmentation water met water quality standards.

At the time of my review, the Port had proposed several possible sources of water and a conceptual treatment system, but they had not yet been developed to the level of certainty that provided me with reasonable assurance that the standards would be met.