**K. Fitzpatrick**

**BEFORE THE POLLUTION CONTROL HEARINGS BOARD**
**STATE OF WASHINGTON**

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| AIRPORT COMMUNITIES COALITION,<br><br>Appellant,<br><br>CITIZENS AGAINST SEA-TAC EXPANSION,<br><br>Intervenor/Appellant,<br><br>v.<br><br>STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY; and PORT OF SEATTLE,<br><br>Respondents. | PCHB No. 01-160<br><br>DIRECT TESTIMONY OF KEVIN FITZPATRICK SUBMITTED ON BEHALF OF THE DEPARTMENT OF ECOLOGY |

**AR 015590**



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Kevin Fitzpatrick declares as follows:

## I. My Experience

1. I am employed by the Department of Ecology (Ecology) in the Water Quality Program in the Northwest Regional Office. I am a Section Manager of the Northwest Regional Office Water Quality Section with responsibility for managing the activities of over 38 professional staff, including environmental engineers, environmental specialists, and hydrogeologists. This section is tasked with meeting goals and objectives of the Water Quality Program which include the regulation of municipal and industrial points sources and the discharges of process or stormwater discharges from these sources, implementation of Washington State's non-point source control action plan, development and implementation of Total Maximum Daily Loads (TMDLs) or Water Cleanup Plans on those state waters that have been listed as impaired for not meeting the state's water quality standards, as well as provide technical expertise to other Ecology programs on water quality issues. I have been directly involved with the Third Runway Project Clean Water Act § 401 Certification (401 Certification) since September 1999. I have most recently provided technical assistance on water quality issues to the principal author of the 401 Certification, Ann Kenny. I am familiar with the water quality aspects of the 401 Certification, with the Port's National Pollutant Discharge Elimination System (NPDES) permit and the acceptable fill criteria developed in the 401 Certification.

2. I have been employed by the Department of Ecology since September 1986. During that time I have held the following positions: Environmental Crime Investigator, Water Quality Inspector, and Supervisor of the Industrial Permit Unit. My educational background includes the following: BS in Biology from Loyola University of Chicago 1975, MA in Zoology from Southern Illinois University 1981, completion of United States Coast Guard Officer Candidate School and commission in February 1981, as well as a variety of in-service professional courses on oil spill response, hydrogeology, hydrology, NPDES permit

writing/management, environmental chemistry, geochemistry and wetland ecology. My resume is attached hereto as Attachment A.

## II. The NPDES Permit

3. Stormwater discharges from Seattle-Tacoma International Airport (STIA) have been regulated under a NPDES permit since 1995. Ecology issued the current version of the permit in February 1998. Ecology issued a major modification to the permit in 2001 to include new discharges from construction activities to receiving waters that had not been previously listed. Also included in this most recent modification are stricter monitoring and reporting requirements for these new discharges. The permit will be revised and reissued in June 2002 and will build upon and complement many of the water quality requirements found in the 401 Certification.

4. The Port's STIA NPDES permit requires the Port to comply with best management practices (BMPs) for the control and treatment of stormwater. The BMPs are set forth in the Storm Water Pollution Prevention Plan (SWPPP) required by Condition S2 of the permit. The SWPPP includes both source control BMPs and treatment BMPs. Source control BMPs include measures such as spill containment and control, elimination of environmentally harmful materials from an industrial operation such as runway de-icing, or re-routing of stormwater run-off from an industrial operation from the stormwater drainage system to the Industrial Wastewater System. These management practices prevent pollution from entering stormwater. Treatment BMPs include facilities such as filter strips, compost/peat filters, sand filters, activated media filters and wet ponds which filter and remove pollutants from stormwater prior to discharge to area streams.

5. The use of treatment and source control BMPs in the permit to treat stormwater is consistent with U.S. Environmental Protection Agency (EPA) guidance regarding stormwater NPDES permits and is consistent with Ecology's water quality standards. WAC 173-201A-160(3)(a) states that "the primary means to be used for requiring compliance with



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the standards" for non-point source and stormwater pollution "shall be through best management practices." EPA's guidance states, similarly:

> Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.
>
> The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate.

EPA Memorandum from Robert Percisepe regarding Interim Permitting Approach for Water Quality Based Effluent Limitations in Stormwater Permits, p. 2. Pursuant to EPA's guidance, BMPs may be used in NPDES stormwater permits as a substitute for numeric effluent limitations because numeric limits "can be very difficult to develop at this time because of the existing state of knowledge about the intermittent and variable nature of these types of discharges and their effects on receiving waters." *Id.*

6. The Port's NPDES permit also regulates discharges from the Port's Industrial Wastewater System (IWS). The IWS collects stormwater from certain areas of the airport as well as wastewater from industrial operations. The IWS discharges via lagoons directly to Puget Sound. The NPDES permit includes numeric effluent limitations for pH, flow, oil and grease, and total suspended solids (TSS) for the IWS discharge. The NPDES permit also required that lagoon 3 of the IWS be lined to prevent discharges to groundwater.

7. The NPDES permit contains numerous monitoring requirements. Special Condition S2 requires the Port to monitor effluent from the IWS, non-construction stormwater, and construction stormwater. For non-construction stormwater, the Port is required to monitor for TPH, TSS, turbidity, fecal coliform, BOD, glycols, and total recoverable copper, lead, and zinc. The Port is required to submit monitoring results to Ecology in an annual monitoring summary report. The NPDES permit does not currently require the Port to monitor upstream


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or downstream of its stormwater outfalls nor does the permit require the Port to monitor for the dissolved fractions of copper, lead, or zinc. The NPDES permit also does not currently require the Port to monitor the hardness of the receiving water. Hardness data of the receiving water and the stormwater effluent would make comparisons between total recoverable metal concentrations in the stormwater effluent with acute and chronic criteria for metals easier; however, these comparisons are still possible to make by relying upon historic seasonal values for hardness in these same receiving waters.

8. The NPDES permit requires acute toxicity testing for stormwater. Condition S10. This testing, referred to as whole effluent toxicity (WET) testing, involves determining the toxicity of the Port's stormwater to certain sensitive marine organisms. The Port conducted this testing pursuant to Condition S10. Those test results indicated acute toxicity in the stormwater whole effluent at the Port's SDN 1 outfall. This acute toxicity was caused by elevated concentrations of zinc. The Port traced the source of the zinc to certain metal covered roofs in that area and it has proposed to paint or cover those roofs to eliminate that toxicity.

## III. The Variable Nature Of Stormwater

9. Stormwater is inherently variable in both quantity and pollutant concentrations. It is variable in quantity because rain falls at different rates and different times and may infiltrate into the ground or runoff at different rates depending on the type of surface upon which it falls. Pollutant concentrations in stormwater also depend on the surfaces over which the water passes. Runoff from high traffic impervious surfaces such as roads often contain hydrocarbons and metals that were deposited on the surface by automobiles. Runoff from landscaped areas may, on the other hand, contain pesticides or herbicides applied to those areas for weed or pest control. The concentrations of pollutants within stormwater typically vary within a single rainfall event, with the highest level of pollutants occurring in the first part of the storm, as pollutants are washed off in the storm's first flush, and then tapering downward over time.

10. Because of this variability, it is extremely difficult, if not impossible, to apply the numeric water quality standards in WAC 173-201A to stormwater discharges. The water quality standards assume a steady-state industrial discharge that does not have the variability of stormwater. The water quality standards for copper, lead, and zinc, for example, require showing an exceedence of the numeric criteria on an average basis over time. The acute criteria for copper, lead, and zinc are expressed as a one-hour average concentration not to be exceeded more than once every three years on the average. The chronic criteria are expressed as a four-day average concentration not to be exceeded more than once every three years on average. Because of the variability of pollutant concentrations in stormwater, it is difficult to determine an average concentration sustained over the necessary period of time. It is also extremely difficult to attribute an exceedence in a particular stream with any particular outfall.

11. In their testimony, the ACC relies on the Port's annual monitoring reports to claim that STIA stormwater discharges violate water quality criteria. These statements are incorrect for two reasons. First, the Port's samples show instantaneous exceedences of the numeric criteria but they do not show that the criteria were exceeded for the necessary length of time. Second, the Port's monitoring reports refer only to concentrations in the Port's discharges, not to concentrations in the receiving waters. Ecology's water quality standards apply only to the receiving waters. To establish a violation of water quality standards for metals in the receiving waters, it would be necessary for the Port to sample both upstream and downstream of its discharges. Such sampling is difficult if not impossible in the case of STIA because the Port's discharges pass through pipes, ponds, ditches, and other detention facilities before reaching the streams. The Port's discharges from outfall SDS 3, for example, flow into the northwest ponds, which form the headwaters of the west branch of Des Moines Creek. Even if the Port took upstream and downstream samples, it would be difficult to determine the one-hour average concentration in the stream because of fluctuations in stream volume and



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chemical composition. There is considerable debate within the field regarding the proper sampling method to accurately characterize pollutant concentrations in stormwater.

12. Ecology also believes that ACC is in error in its reading of Port of Seattle "STIA Construction Site Stormwater Monitoring" reports and its conclusion that turbidity violations of the state's water quality standards occurred. Greg Wingard, consultant to ACC, erroneously concluded that upstream and downstream monitoring results in these reports was a reference to upstream and downstream locations in the surrounding receiving waters. The upstream and downstream monitoring locations are, in fact, upstream and downstream locations within the STIA stormwater collection system. These locations were set up by environmental staff with the Port of Seattle to determine the effectiveness of on-site sediment and erosion control measures in place at construction sites on Port of Seattle property. These monitoring locations are not located in the surrounding receiving waters or waters of the state and are confined to the STIA stormwater conveyance systems. The reported results for turbidity in no way reflect actual conditions for turbidity of the receiving waters on the monitoring dates in question.

## IV. Water Effects Ratio Study

13. Metals in stormwater may exist in both dissolved and particulate form. The dissolved fraction of the metal is of primary concern because it is bio-available and may be toxic to marine organisms. The relationship between the dissolved fraction and the particulate fraction of a metal in water is a complex one depending on a variety of the physical and chemical characteristics of the water and the metal. For this reason, the toxicity of a metal may vary from stream to stream and it may be inappropriate simply to apply the numeric water quality standards stated in WAC 173-201A. A site specific analysis or Water Effects Ratio (WER) study is necessary to accurately determine metal toxicity in particular receiving waters. This fact is reflected in Ecology's water quality standards, which state that "the department may revise the following criteria on a state wide or water body specific basis as needed to

protect aquatic life occurring in waters of the state and to increase the technical accuracy of the criteria being applied." WAC 173-201A-040(3).

14. WER studies are described in guidance established by the EPA. *Interim Guidance on Determination and Use of Water-Effect Ratios for Metals,* EPA-823-B-94-001. Ecology's Water Quality Program *Permit Writer's Manual* provides additional guidance and documentation of Ecology's decisions on WER studies where the process is different than that described by EPA or where the EPA document has optional conditions for the permitting authority to decide. In general, a WER study seeks to determine the seasonal partitioning of the dissolved species of a metal in the ambient conditions of the receiving water in relation to an effluent discharge. The effluent discharges in this case are the stormwater discharges from STIA to the surrounding receiving waters which include Miller, Walker and Des Moines Creeks.

15. The 401 Certification requires the Port to conduct such a site specific study to determine the toxicity of metals in the STIA stormwater discharges in the receiving waters of Miller, Walker, and Des Moines Creeks. Condition J2(a). The findings of the comprehensive WER study will go directly to determining whether the Port's STIA stormwater discharges reported through the current monitoring requirements of its NPDES permit exceed or comply with the acute and chronic criteria for these metals in the state's water quality standards. The results of this study also will contribute to establishing final effluent limitations for metals of concern in the STIA stormwater discharges and a compliance schedule for the Port to meet these limits in the Port's revised NPDES permit to be issued this year.

16. The Port will be required to monitor its stormwater discharges to determine if the established effluent limitations are met. If they are not met, the Port will be required to install those necessary additional treatment BMPs to meet the established limits. The results of the WER study and the ongoing monitoring will contribute greatly to Ecology's and the Port's knowledge on selecting additional treatment BMPs that can address pollutants of concern. In

the meantime, the 401 Certification prohibits any stormwater discharges from new impervious surfaces until the effluent limitations are established in the Port's revised NPDES permit.

17. The Port's Comprehensive Stormwater Management Plan, reviewed by King County, recognizes that additional water quality BMPs may be required. The plan states: "NPDES Permit Compliance is continually executed via an adaptive management process by which (1) BMPs are implemented, (2) monitoring and inspections demonstrate BMP effectiveness, (3) BMP improvements are made when necessary, and (4) follow-up sampling demonstrates the improvements are effective." Sec. 2.2.1. As explained above, this adaptive management approach is consistent with Ecology's water quality standards and EPA guidance. Dissolved metals are a significant problem in urban stormwater but are difficult to address because of the lack of data regarding effective treatment techniques. Likely sources of metals in urban stormwater are automobile tires and brake pads. At STIA, aircraft tires and brake pads also are likely metal sources. The Port is addressing this problem through the WER study, the WET testing, and through the retrofit of its existing stormwater facilities.

## V. Retrofit

18. The Port is constructing new stormwater facilities and retrofitting its existing stormwater facilities to meet flow control associated with a target flow regime of 75% forested, 15% till pasture, and 10% impervious surface pre-development condition. This flow condition was determined to be the most beneficial for restoring highly disrupted urban streams in the University of Washington basin study of Des Moines Creek. This level of flow control will have the added effect of reducing pollutant concentrations in the Port's stormwater by slowing down the Port's stormwater discharges and increasing opportunities for pollutants to settle out in the stormwater detention facilities. The 401 Certification also requires that the Port retrofit existing stormwater facilities with necessary treatment BMPs at a rate commensurate with the addition of new impervious surface. This rate is for every 10% percent of new impervious surface added the Port must demonstrate that 20% percent of retrofitting has occurred.

## VI. Reasonable Potential Analysis Not Done

19. The ACC contends that Ecology conducted a reasonable potential analysis of the Port's stormwater discharges and found that basic treatment BMPs were inadequate to remove dissolved metals. This statement is not correct. Ecology has not conducted a reasonable potential analysis of the Port's stormwater discharges. The NPDES permit fact sheet refers to such an analysis conducted by the Port but, to my knowledge, that analysis has not been submitted to Ecology for consideration in developing any past or current STIA NPDES permit. The Port's analysis was attached as Appendix F to the 1998 Preliminary Comprehensive Stormwater Management Plan. It concluded that "BMPs should produce stormwater effluent that would meet Washington State water quality standards." p. 6-1.

20. A reasonable potential analysis, as described in Ecology's Water Quality Program *Permit Writer's Manual*, is an analysis of whether a specific discharge with specific constituents has a reasonable potential to cause a violation of water quality standards given a particular set of treatments. Due to the variability inherent in stormwater, this type of analysis cannot be easily done on stormwater discharges. The procedures established in the *Permit Writer's Manual* for reasonable potential analysis are geared toward evaluating steady-state industrial or municipal process wastewater discharges. Applying this analysis to stormwater discharges is inappropriate and will only yield inconclusive and unintelligible results.

## VII. Glycols

21. ACC also contends that glycols are likely to be a problem in STIA's stormwater. In this regard, the Port already has re-routed areas of stormwater discharge containing glycols to its IWS. Thus, I expect concentrations of glycols in the Port's STIA discharges to decline. My review of the Port's annual monitoring reports confirms that such a decline appears to be occurring. If future monitoring indicates a need for further treatment of glycols, such treatment can be imposed pursuant to the NPDES permit.

## VIII. The Cascade Pole NPDES Permit Is Irrelevant

22. Tom Luster in his Pre-Filed Testimony refers to a recent permit issued by the Department of Ecology's Southwest Regional Office to Cascade Pole and Lumber to argue that Ecology can set stormwater effluent limits in NPDES permits for industrial sources when necessary. He concludes that the same should be done for the STIA NPDES permit. Cascade Pole and Lumber is a wood-treating operation. This is a markedly different industry with markedly different stormwater pollutant sources than those found at a major international airport. It is also in an industry group that has been subject to intensive regulation and research in controlling its major pollutant source, pentachlorophenol. This intensive effort by the Department of Ecology on the wood-treating industry in Washington State began in 1992 with the development of a model NPDES permit for wood-treaters.

23. All of the wood-treating industries in Washington State have been brought under this model permit and the work of the last ten years with this industry has been to develop final effluent limits for pentachlorophenol in each facility's stormwater discharges. The industry has determined that they can often meet these effluent limits for pentachlorophenol by putting in place effective and fairly standard source control BMPs (e.g., roofing and containment over process and storage areas, prevention of stormwater run-on to process areas, immediate spill control and containment, etc.). The challenges of source control on one specific industrial pollutant source, though significant, pale in comparison to the challenges of source control at a major municipal airport. Also, a closer review of this wood-treater permit will reveal that not all the pollutants from this industrial source have a final effluent limit established for stormwater discharges from the facility. Pollutants from wood-treaters which are the subject of continued and future study and do not as yet have final effluent limits established are the dioxins and furans that are known to be generated from the industrial operations of wood-treaters.



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## IX. 401 and 402

24. Mr. Luster contends in his testimony that it is inappropriate in the context of a 401 Certification to rely on an adaptive management approach under § 402 of the Act utilizing an NPDES permit. I disagree. Issuance of an NPDES permit by Ecology is a determination that water quality standards are met by a proposal, provided the conditions in the permit are met. Because an NPDES permit must be reissued every five years, it may be updated with new technology or water quality based effluent limitations. The mere fact that the permit may be updated based on new monitoring results, new conditions, or new technology does not mean that issuance of the permit now is a violation of the Clean Water Act (CWA). Similarly, it is not in my view a violation of the CWA to issue a 401 Certification that includes the possibility of future, more stringent, requirements to be imposed under an NPDES permit. Reasonable assurance that water quality standards will be met derives in such circumstances from the establishment of a feedback loop that allows for continual upgrading of operational, source control, and treatment BMPs.

25. In July 2001, Ecology adopted a policy addressing the relationship between 401 Certifications and NPDES permits. *WQP Policy 1-22, Adopting Supplemental Treatment as a Best Management Practice and Defining Compliance with Water Quality Standards for Stormwater Impacts for the Water Quality and SEA Programs*. To my knowledge, this policy was not applied to the Port's proposal because it was not effective during the time the 401 Certification was in development. The policy calls for 401 and 402 to be applied in a "non-duplicative and complementary manner." The policy also recognizes that a 401 Certification may "require compliance with the Individual 402 Permit as adequate for compliance with the water quality standards." In some cases, additional conditions may also be imposed. Here, not only is the Port regulated under an NPDES permit, Ecology imposed additional conditions in the 401 Certification to address water quality. These include the WER study and the stormwater management system retrofit.





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## X. Mixing Zone Not Authorized

26. Contrary to the contentions of ACC, the 401 Certification does not authorize a "mixing zone" in violation of water quality standards. For instream and shoreline work only, the Certification allows temporary exceedences of water quality standards for turbidity pursuant to WAC 173-201A-110(3). Section 401 Certification, Condition A(1), p. 2. The Certification further states that any mixing zone established pursuant to that regulation must be minimized pursuant to WAC 173-201A-100. Condition A(2)(d), p. 3. These conditions do not authorize mixing zones for any work other than instream and shoreline work and for no other criteria than turbidity. The 401 Certification does not authorize mixing zones for stormwater discharges from the Port's STIA industrial operations.

## XI. Acceptable Fill Criteria

27. Ecology was presented with a considerable challenge in determining the appropriate conditions to include in a 401 Certification to screen fill materials to be used in the construction of the proposed Third Runway and related projects. Conditions for acceptable fill material have never been developed for projects receiving a 401 Certification from Ecology. However, as this project requires the importation of an enormous volume of fill material to the site (estimated at anywhere from 17 to 22 million cubic yards) Ecology developed conditions on the use of fill materials to ensure that water quality standards will not be violated. In light of this water quality concern, I participated in the development of the acceptable fill criteria and in drafting the terms of Condition E of the 401 Certification which establishes the protocols governing the Port's use of fill material for its proposed project.

28. Because there is no national or state guidance on acceptable fill standards or criteria, Ecology elected to craft conditions for inclusion in the 401 Certification that place requirements on the Port to investigate its fill sources to ensure that fill material came from uncontaminated sources. The fill criteria also requires the Port to test and monitor its fill materials to ensure that over the life of the project the fill materials will not have "the potential

either singularly or cumulatively to adversely affect characteristic water uses," of Washington State waters. WAC 173-201A-040(1).

29. The fill screening protocols, set forth in Condition E of the 401 Certification, are designed to fulfill two separate but related objectives of the Army Corps of Engineers (Corps) and Ecology. Those requirements are the Corps' § 404 permitting standard of "free from toxic pollutants in toxic amounts" (U.S Army Corps of Engineers Nationwide Permitting Standards No. 18. "Suitable Material") and Ecology's requirement that fill materials used for the project not be sources of any contaminants that would exceed state surface water standards (WAC 173-201A) and state groundwater standards (WAC 173-200) at any time over the life of the project. When developing the fill criteria, Ecology was specifically guided by the requirements of WAC 173-201A-040(1) ("[t]oxic substances shall not be introduced above natural background levels in waters of the state which have the potential either singularly or cumulatively to adversely affect characteristic water uses") and the anti-degradation standard in WAC 173-201A-070(4)(a) ("[e]xisting instream uses and the level of water quality necessary to provide full support to those uses must be maintained and protected").

30. Under Condition E, the first step in meeting these objectives is the requirement that fill materials for the project must originate from uncontaminated sources. Under that condition, the Port is restricted to using only naturally occurring uncontaminated soils as fill material. This requirement is found in Condition E(1)(d) *Prohibited Fill Sources* which prohibits the use on the proposed Third Runway embankment "[f]ill which consists in whole or in part of soils or materials that are determined to be contaminated following a Phase I or Phase II site assessment." Phase I and Phase II site assessments refer to established protocols from the American Society for Testing and Material Standards (ASTM) for investigating historical uses of a site and necessary record reviews that may disclose actual or potential instances of site contamination. Condition E(1)(d) also prohibits the Port from using "soils or materials that were previously determined to be contaminated by a Phase I or Phase II site


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assessment and have been treated in some manner so to be considered re-mediated soils or fill material."

31. The Port's compliance with the restriction that only naturally occurring uncontaminated soils be used is reinforced by the requirement that the Port investigate the proposed fill source to determine whether the site has any history of contamination. This requirement is set forth in Condition E(1)(a) *Documentation.* This condition defines the detailed nature of the site investigation and the information that must be submitted to Ecology documenting that investigation. Specifically, Condition E(1)(a) requires that:

> The environmental assessment shall be conducted by an environmental professional in general conformance with the American Society for Testing and Materials Standard (ASTM) E 1527-00 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, and E 1903-97 Standard Guide for Environmental Site Assessments: Phase II Environmental Site Assessment Process.

32. The next requirement guaranteeing that the fill used meets the Corps' and Ecology's objectives is the verification of the findings of the site investigation. The verification provisions, contained in Conditions E(1)(a)(iv) *Fill Source Sampling* and E(1)(b) *Criteria*, require the Port to sample fill materials for the potential contaminants identified and sets forth criteria for concentrations of naturally occurring contaminants in soil. The purpose of the verification is twofold: (1) to establish that the source of fill is indeed uncontaminated; and (2) to ensure that even naturally occurring contaminants in soil do not exceed the specified concentrations. The latter requirement is needed because of the potential for naturally occurring contaminants present in the soil at concentrations in excess of the stated criteria to exceed state groundwater and surface water standards if mobilized. For example, naturally occurring contaminants such as arsenic and copper could be at concentrations in a fill source where, if mobilized, they present a risk of violating state groundwater and surface water standards at some time over the life of the project.

33. Ecology developed the criteria established for concentrations of the naturally occurring contaminants listed in Condition E(1)(b) to protect surface water and groundwater.


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Another measure in Condition E(1)(b) designed to further protect surface water and groundwater is the establishment of even lower concentration requirements for certain naturally occurring contaminants (chromium, lead and nickel). These lower concentrations apply to fill materials depending on the location of the fill in the final fill profile. Under that provision, the Port must employ the stricter criteria when screening fill for placement in the fill profile where the location increases the risk of those contaminants reaching surface water or groundwater.

34. Conditions E(2) *As-Built Documentation* and E(3) *Post Construction Monitoring* provide additional assurance that the fill materials used meet the objective that the placement of fill not jeopardize either state surface or groundwater standards. To that end, Condition E(2) establishes a tracking system for fill materials imported onto the construction site so that Ecology and the Port know with some certainty the exact location and elevation of the materials used. In addition, under Condition E(3) the Port is required to monitor both surface water and groundwater conditions throughout the project development. The monitoring requirement serves as an "early-warning" system concerning surface water and groundwater conditions in the unlikely event that unsuitable fill material was deposited onto the site.

35. In my opinion, the fill criteria and protocols established in Condition E provide for the protection of the water quality of state groundwater and surface water in the Port's construction of its proposed project. In particular, the criteria developed for soil concentrations of naturally occurring contaminants are appropriately conservative. As a result, it is highly unlikely that those contaminants will mobilize and move into groundwater and surface waters at concentrations exceeding acute or chronic criteria established in the state's surface and groundwater standards. I believe that the unprecedented requirements placed on the Port in its selection and use of fill material provide Ecology with reasonable assurance that Washington

State's surface water and groundwater quality standards will be met throughout the life of this project.

I declare under penalty of perjury under the laws of the state of Washington that the foregoing is true and correct.

DATED this 7th day of March, 2002.

Kevin C. Fitzpatrick

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*EDUCATION:*

B. S. Biology - 1975 - Loyola University of Chicago, Illinois

M. A. Zoology - 1981 - Southern Illinois University at Carbondale, Illinois

U.S.C.G. Officer Candidate School - 1980, Yorktown, Virginia Commissioned as Ensign in the United States Coast Guard - January 1981

Completed a number of professional courses and in-service training offered by the Coast Guard, EPA, and Washington State Department of Ecology on environmental law, environmental enforcement, water quality-based permit writing and management, oil and hazardous material handling and response. Trained and familiar with a variety of computer software packages including Windows NT, Windows 95, Office 97 Suite, CG SWSIII, Oracle and Dbase III.

*PROFESSIONAL HISTORY:*

2001-Present — **Section Manager, NWRO Water Quality Program**, NW Regional Office, Washington State Department of Ecology: Manage a Department of Ecology Water Quality Program section which consists of 40 professional staff organized into four operational units to carry out the program's mission to protect and preserve the waters of Washington State for the benefit of current and future generations. Professional staff includes environmental engineers, hydrologists, environmental scientists, environmental technicians and environmental managers. The four operational units are the Municipal Permit Unit, the Industrial and Stormwater Unit, the Watershed Unit and the Compliance and Technical Assistance Unit. Delegated signature authority from the agency's director to issue, renew or modify NPDES and State Waste Discharge Permits, impose civil penalties up to $25,000, responsible official for SEPA decisions, as well as a number of other enforcement related and administrative actions.

1990-2001 - **Unit Supervisor, Industrial Permits Water Quality**, NW Regional Office, Washington State Department of Ecology: Direct supervision of staff of nine including environmental engineers, scientists and technicians responsible for

the administration, issuance and management of water quality discharge permits for industries in northwest Washington. Permits include both the Federal National Pollutant Discharge Elimination System (NPDES), the Washington State Discharge Permit Program and industrial pretreatment; managed permits for Boeing, Weyerhaeuser, Salmon Bay Steel and shipyards on Puget Sound; developed and implemented general statewide permit for boatyards in Washington state.

1986-Retired 2000 - **Lieutenant Commander, U.S. Coast Guard Reserve** Duties have included augmenting Marine Safety Office Puget Sound, Seattle, WA: Port Operations head supervised 45 enlisted reserved personnel engaged in port safety and commercial vessel inspection. Last served as the readiness planning officer for the 13th Coast Guard District Readiness Planning branch. Retired from the U.S. Coast Guard Reserve on December 1, 2000.

1989-1990 - **Criminal Investigator**, Joint State/Federal Environmental Crime Task Force, Washington State Department of Ecology: Lead state investigator responsible for the investigation of criminal violations of state and federal environmental laws in Washington. Case management involved collection, documentation and preservation of evidence, preparation of affidavits in support of criminal search warrants, and preparation of final disposition with local, state and federal prosecution authorities.

1988-1989 - **District Inspector**, NW Regional Office, Washington State Department of Ecology: Responsible for the maintenance of water quality and ensuring compliance with state water quality laws for industries and municipalities in Island, Skagit, Whatcom and San Juan counties. This included the development, issuance and management of water quality discharge permits.

1986-1988 - **Criminal Investigator**, Washington State Department of Ecology: First criminal investigator for the state of Washington; developed guidelines and procedures for criminal case referrals to local prosecutors; undertook active investigation of several alleged criminal violations of the state's dangerous waste in water quality laws in coordination with EPA's Office of Criminal Investigations.

1985-1986 - **Assistant Port Operations Chief and Planning Officer**, USCG Marine Safety Office Puget Sound, Seattle, Washington: Developed the Puget Sound Oil and Hazardous Material Contingency Plans and emergency contingency plans including marine fire-fighting, marine casualties and collisions and wartime mobilization; supervised eight enlisted personnel in Port Operations

and oil pollution response; assistant on-scene commander for the Arco Anchorage spill in Port Angeles, WA.

1981-1985 - **Marine Environmental Protection Officer**, Marine Inspector, and Investigating Officer USCG Marine Safety Office, Toledo, Ohio: Responsibilities included merchant vessel safety inspection, testing and licensing of marine personnel and environmental response to oil and hazardous chemical spills. Collateral duties included management and integration of unit's micro- and main frame computers for utilization of the Marine Safety Information System.

1977-1980 - **Graduate Research Assistant and Teaching Assistant**, Department of Zoology, Southern Illinois University at Carbondale: Instruction and curriculum design for upper level laboratory sections of Comparative Anatomy and Ichthyology; technician in Entomology and Genetics labs.

1975-1977 - **High School Teacher**, Heart of Mary High School, Chicago, Illinois: Taught science and math to high school and junior high level students in an institutional setting for teenage girls at risk.

*OTHER ACCOMPLISHMENTS:*

Bilingual with Spanish as second language; found to be very valuable for foreign vessel inspections and in occasional dealings with environmental officials from Spanish speaking countries. Spanish speaking skills acquired through a total of nine months in the Dominican Republic during high school and college.

Have provided numerous presentations to a variety of professional organizations and community groups on water quality issues.

*REFERENCES:*

Furnished upon request.