BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

PORT OF SEATTLE,

Appellant,

v.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY,

Respondent.

PCHB NO. 03-140

AIRPORT COMMUNITIES COALITION, CITIZENS AGAINST SEATAC EXPANSION, and PUGET SOUNDKEEPER ALLIANCE,

Appellants

v.

STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, and PORT OF SEATTLE (SEA-TAC INTERNATIONAL AIRPORT)

Respondents.

PCHB NOS. 03-141, 03-142

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

The State of Washington, Department of Ecology (Ecology) issued a

National Pollutant Discharge Elimination System (NPDES) permit for discharges associated with the Port of Seattle's Seattle International Airport – NPDES No. 002465-1 in 2003. (2003 Permit) The Port of Seattle (Port) appealed certain terms and conditions of the permit in PCHB No. 03-140. The Airport Community Coalition (ACC) and Citizens Against SeaTac Expansion (CASE) filed a separate appeal of the NPDES 002465-1 permit in PCHB No. 03-141, and Puget Soundkeeper Alliance (PSA) filed an appeal of the permit in PCHB No. 03-142. The cases were consolidated for hearing by Board order.

The hearing in the matter was conducted July 12-21, 2004, in Lacey, Washington. Counsel Gillis E. Reavis and Stephen Tan represented the appellant Port of Seattle, Richard A. Poulin represented ACC and CASE, David S. Mann represented Puget Soundkeeper Alliance, and Assistant Attorney General, Joan M. Marchioro represented Ecology.

The Board was comprised of William H. Lynch, chair, Robert V. Jensen, and Bill Clarke. Administrative Appeals Judge, Phyllis K. Macleod presided for the Board and Gene Barker and Associates, Olympia, Washington, recorded the proceedings. Mr. Jensen retired from the Board prior to issuance of the decision and is not a signatory.

Witnesses were sworn and heard, exhibits were introduced, and the parties presented arguments to the Board. Based upon the evidence presented, the Board

makes the following:

FINDINGS OF FACT

1.

SeaTac Airport is a major airport that serves the Pacific Northwest, occupying 2,500 acres of land within the City of SeaTac. The airport is owned and operated by the Port of Seattle (Port), a municipal corporation under the laws of Washington (RCW 53.08). Industrial activities at the airport include aircraft and ground vehicle maintenance, fueling, washing, aircraft and ground deicing/anti-icing, and miscellaneous airport-related activities. (Ex. 4, p. 8).

2.

The appellants ACC, CASE, and PSE are particularly concerned about the Port and its tenants' use of aircraft deicing and anti-icing fluids and their subsequent discharge into Puget Sound and other area surface waters. Deicing fluids are highly biodegradable and when released into surface water will exert biochemical oxygen demand (BOD). (Ex. 4, p.22). The potassium acetate, calcium magnesium acetate and sodium acetate used for anti-icing on airport runways, taxiways, and roadways also exert high BOD.

3.

BOD is used to estimate the potential reduction of dissolved oxygen in receiving water after an effluent is discharged. Oxygen levels in surface water are critical

to safe habitat for fish and other aquatic organisms. The outfall from the Port's Industrial Wastewater Treatment Plant is located critical habitat that represents a migration corridor for returning adult Chinook salmon. (Ex. 90, p. 5-11). High BOD levels indicate a potential problem with dissolved oxygen in the receiving water. Mandatory levels of dissolved oxygen are contained in the State water quality criteria at WAC 173-201A-030. The deicing and anti-icing agents also contain additives, which may be toxic to marine organisms in high quantities. (Cardwell, Marshall testimony).

4.

Two different systems collect and discharge drainage from the airport: (1) the Industrial Wastewater System (IWS), and (2) the Stormwater Drainage System (SDS). The IWS collects industrial wastewater, which is primarily from rain that falls on the terminal, air cargo, deicing areas, hangars, and maintenance areas. The IWS water is treated at the Industrial Waste Treatment Plant (IWTP). The IWTP was originally designed and constructed in 1963/1964 for the purpose of capturing and treating fuel spills. It now consists of three lagoons and a Dissolved Air Flotation (DAF) plant containing six DAF units. The three lagoons store flows in excess of the IWTP treatment capacity. (Ex. 4, p. 11).

5.

The process for treating wastewater at the IWTP consists primarily of

adding coagulation chemicals to influent in order to flocculate suspended solids and oils, and then running the wastewater through the DAF plant for removal of the suspended solids and oils. The wastewater leaves the IWTP through an 18-inch trunk line, which eventually joints the Midway Sewer District's 30-inch effluent trunk line and discharges through a diffuser into Puget Sound at Outfall 001. The discharge occurs approximately 1,400 feet from shore in 178 feet of water. (Ex. 4, pp. 12-13). The IWTP process helps remove grease and oil from the wastewater influent, but it is not effective in treating glycols or in reducing biological oxygen demand (BOD) in the wastewater. (Ex. 53, Sect. 1, p.1).

6.

The IWTP generally operates after periods of significant rainfall. Plant operations can be intermittent depending on weather conditions. Concentrations of BOD can also vary widely depending on conditions. Since the 1995 AKART Engineering Analysis, the Port has made a number of capital improvements to the IWS system including installation of new pumps and force mains, improving sampling equipment, upgrading storage Lagoons 1 and 2, and importantly, increasing the size of Lagoon 3 from 20.2 million gallons to 76 million gallons. Since 1994, the Port has spent over $60 million dollars on the Industrial Wastewater and Stormwater System at the site. (Sweet testimony).

7.

The larger Lagoon 3 provides storage volume designed to allow the IWTP to operate at rates between 2 and 3 million gallons per day (mgd) without overflowing the lagoon. (Ex. 4, p. 17) The full hydraulic capacity of the IWTP is 8.3 mgd. (Ex. 4, p. 17). Operating at lower rates will allow flexibility when effluent is pumped to the King County South Treatment Plant at Renton, reducing capacity charges and the potential for surcharging downstream sewers in high volume events. (Ex. 4, p.17).

AKART HISTORY FOR IWS

8.

The 1994 NPDES permit first required the Port to develop an engineering analysis designed to identify all known, available, and reasonable treatment (AKART) options for the IWS wastewater. (Ex. 3, p. 25). Condition S5 of the 1994 permit required the Port to submit an engineering report describing plant modifications and/or additional wastewater treatment necessary for the Department to determine AKART. The report was to review all possible treatment technologies, quantify the expected concentration of pollutants from each identified treatment, detail the cost of each identified treatment, and list other environmental factors associated with each treatment method. The Port was given 18 months to complete and submit the AKART engineering report. (Ex. 3, p. 25).

9.

The Kennedy/Jenks Engineering firm prepared the AKART analysis entitled "IWS Engineering Report," dated December 18, 1995 and submitted to Ecology on December 27, 1995. (Ex. 38). The stated goal of the study was to select a treatment and disposal alternative for the IWS discharges generated by airport operations and define effluent limits. The selection of treatment and disposal alternatives was to be based on both an evaluation of AKART for treating IWS discharges and an identification of applicable effluent limitations derived from studies of both surface water and sediment quality standards.

10.

The data compiled in preparing the report revealed a projected average yearly concentration of BOD in IWS effluent of 336.9 mg/L. (Ex. 38, Table 4-2). The combined average mass flow of waste stream constituents indicated an annual total BOD volume in the effluent of 1,373,590 pounds. (Ex. 38, Table 4-3).

11.

The AKART report recommended modifications of the stormwater collection system to address requirements contained in the Port's 1995 SWPPP. The report also evaluated the lagoon system and recommended upgrades to the existing lagoons, but not an increase in Lagoon 3 capacity. (Ex. 38, p. 3-19). The report concluded improvements were needed to ensure proper operation of the

IWTP. (Ex. 38, p. 3-30).

12.

The report's evaluation of improvements needed to meet effluent standards included both technology reviews and water quality and sediment quality analysis. The identification of all known, available, and reasonable technologies included a review of treatment practices of industrial stormwater with deicing and anti-icing contamination at other cold-region airports. The information collected revealed a wide range of approaches taken to disposal of anti-icing and deicing fluids (ADFs). (Ex. 38, Table 4-1). Several airports were transporting runoff containing glycols to publicly owned treatment works (POTWs) for secondary treatment. Some were considering onsite biotreatment in one form or another. The report evaluated several treatment technologies for possible use at Sea-Tac: vacuum truck collection, enhanced segregation of runoff from gates and deicing areas, centralized deicing pads, dissolved air flotation, mechanical secondary biological treatment, aerated ponds, ozone oxidation, peroxide oxidation, peronone oxidation, potassium permanganate oxidation, filtration followed by granular activated carbon, polymeric adsorption, filtration followed by reverse osmosis, fractional distillation and solvent extraction. The Kennedy/Jenks evaluation concluded none of the treatment technologies could be used effectively at Sea-Tac except vacuum truck collection and dissolved air

flotation. The IWS was already using dissolved air flotation to treat for grease and oil, but that process is ineffective for reducing BOD. Despite the fact that most of the other airports surveyed were transporting all or part of their glycol contaminated water to POTWs, the report did not evaluate that as a treatment technology because the engineering firm considered transport for offsite treatment to be a management decision rather than a technology decision. (Testimony of Edward Kistner). (Ex. 38, p. 4-45). An abbreviated description of a "Metro Disposal Alternative" was included in another section of the report with some very rough cost estimates. Routing the IWTP effluent to the Renton treatment plant was not considered an AKART solution in the 1995 report.

13.

The recommended alternative in the 1995 Report was upgrades to Lagoon 1 and 2 and modifications to the IWS plant. A program to collect ADF at ramp areas through use of vacuum collection trucks was considered the best alternative for reduction of glycol polluted waters. Storage tanks were to be constructed for collected ADF prior to removal for either disposal or recycling. (Ex. 38, p. 6-2). A daily maximum BOD limit of 250 mg/L was proposed in connection with this 1995 AKART analysis.

14.

The Port proceeded to conduct a pilot glycol vacuuming program at the

airport facility during the winter of 1996/1997. (Ex. 57, p. 4-1). While glycol vacuuming had been successful at some airports, due to the frequent and heavy rains experienced at the site, and drainage patterns on the field, glycol vacuuming proved ineffective in adequately reducing glycol contaminated runoff at Sea-Tac. As a result, the effort was discontinued before full implementation. (Kistner testimony).

15.

By the time the glycol vacuuming project was abandoned, the NPDES permit for 1998 was ready for issuance and no new AKART approach had been identified. As a result. the 1998 permit was issued without a final or interim effluent limit for BOD with the notation: "Effluent limitations shall be determined by the Department after approval of the AKART Engineering Report required in Special Condition S4. Final effluent limitations will be set through a major modification of the permit and will be subject to public comment." (Ex. 2, p.10). Condition S4 required submission of an addendum to the 1995 Industrial Wastewater Treatment AKART Engineering Report to the Department within two months of the permit's effective date. The requirement indicated the report should review all known, available, and reasonable methods of prevention and treatment, quantify the expected concentration of pollutants from each identified treatment, and detail the cost of each identified option.

16.

In addition to requiring an updated AKART report, Condition S4 of the 1998 Permit required the Port to take "all available reasonable means to implement the AKART determination in the shortest practicable time, but no later than June 30, 2004." (Ex. 2, p. 21).

17.

In response to this requirement, the Port submitted a document authored by Kennedy/Jenks entitled "Addendum to IWS Engineering" (Addendum 1), to Ecology in April 1998. Addendum 1 updated the review of other airport ADF management practices and explored three basic methods for managing the ADF-containing wastestream: (1) control/collect at point of application using dedicated deicing pads or gate sweeping, (2) Collect and process all wastewater through the IWTP and perform onsite treatment of BOD, (3) Collect and process all wastewater through the IWTP and route offsite for further treatment of BOD. The report reduced the available range of AKART options to three, and ultimately recommended enlarging Lagoon #3 to 47 million gallon capacity and rerouting all the IWTP-treated effluent to King County's Renton treatment plant for disposal. The expressed advantages of routing all IWTP effluent to the Renton POTW were: (1) satisfies the requirements of AKART, (2) involves capital construction costs that are among the lowest of the cases evaluated ($20 million), (3)

eliminates the IWS marine outfall 001 from the Port's NPDES permit, (4) is consistent with current airport practices around the country, and (5) The Port will use only 4 percent of the total capacity of the Renton treatment plant.

18.

Ecology Water Quality Engineer Lisa Zinner responded to Addendum 1 in a letter to Michael D. Feldman of the Port dated June 9, 1998. The letter indicated: "The Department supports this option contingent upon the approval of King County. If King County will accept the IWS discharge, a permit will be required from the King County Industrial Waste Division." (Ex. 36). The other elements of the Zinner letter relate to distinct issues such as fire fighting foam management and sizing Lagoon 3 to achieve collection functions for the separate stormwater collection system discharging to local surface waters (SDS). Inexplicably, the Port did not respond to the Zinner letter until November 10, 1999, some seventeen months later. (Ex. 58). The only material in the Port's letter relating specifically to the AKART pipeline acknowledged the need to obtain permits from King County for the wastewater disposal.

19.

Sometime between 1999 and 2000, the assigned Ecology engineer Lisa Zinner (Austin) left her position with the Department. The permit then went into what Ecology has referred to as a "caretaking" mode. Apparently, at various

times, supervisors John Drabek, Kevin Fitzpatrick, or others, had oversight responsibility for the Port permit, but did not actively work on the file. Time passed with apparently no review, resolution or final formal approval of the proposed AKART alternative identified in Addendum 1. Neither the Port nor Ecology appeared to be aggressively pursuing resolution of the AKART determination. In the meantime, no effluent limits were in place for the IWS discharge because they were going to be established based on the AKART determination. The record seems to reflect a period of over two years, during which little or no progress was made on finalizing the AKART determination.

20.

The Port has testified it refrained from beginning final design and construction of the proposed pipeline because it had not received final approval from Ecology. It was considered imprudent to proceed without final assurance of AKART approval. (Testimony of Bob Duffner).

21.

In late 2001, Ecology assigned engineer Ed Abbasi to be the Stormwater Engineer for the Northwest Regional Office, including designation as the facility manager and permit writer for the Port's airport NPDES permit. (Ex. 70, p. 16). Mr. Abbasi was an experienced Ecology engineer who previously worked on municipal treatment plant permits, including the NPDES permit for the Renton

treatment plant. The Port's NPDES permit was the first occasion he had to make an AKART determination, because in his previous role working on municipal permits, AKART was secondary treatment. After assuming his position, Mr. Abbasi began the task of becoming familiar with the Port of Seattle permit issues including the outstanding AKART determination. He met with engineers for the Port, including Kennedy/Jenks engineer Edward Kistner. Mr. Abbasi was provided with background material in the form of documents and verbal descriptions from Port representatives. (Ex. 70, p. 127).

22.

After Ed Abbasi took over the permit responsibility, the Port submitted a second addendum to the 1995 AKART Engineering Report in April 2002. (Ex. 35). The Second Addendum modified the AKART proposal to send all IWTP effluent to the Renton Treatment Plant and instead proposed using on-line BOD analyzers to segregate wastewater for separate handling. Only wastewater with BOD in excess of 250 mg/L would be transported to Renton for disposal. Wastewater with BOD up to 250mg/L would proceed without further treatment to Puget Sound through existing outfall 001. The Port asserted in Addendum Two that the on-line BOD analyzer was an advance in technology that did not exist in 1995 or 1998, warranting a change in the AKART recommendation.

23.

Addendum 2 did not contain the information necessary for Ecology to conduct an economic analysis of the AKART recommendation. Alternate treatment technologies identified in the 1995 Engineering Report were not revisited. Addendum 2 simply refined the Addendum 1 AKART recommendation by proposing the on-line analyzer and segregation of BOD contaminated wastewater for disposal. The main advantage to the segregation strategy was cost savings for the Port. Minimizing the amount of effluent transported to the Renton facility would cost less than transporting all of the effluent to Renton for disposal. Reducing the load on the capacity of the Renton Plant would be a subsidiary benefit of the segregation plan. When all effluent was proposed for transport in 1998, the anticipated Port discharges were approximately four percent of the Renton capacity. With the enlargement of Lagoon 3 after the 1998 Addendum, the rate of transport could be significantly reduced through management of the pond system, thereby minimizing impacts on the Renton facility. A significant disadvantage of the segregation strategy is the discharge of effluent with 250 mg/L of BOD into Puget Sound without treatment. Evidence before the Board indicated raw domestic sewage typically contians between 200 and 300 mg/L BOD. (Ex. 53, p.8).

24.

From conversations with Mr. Kistner and other Port of Seattle representatives,

Mr. Abbasi understood the Renton treatment plant could not accept all of the wastewater from the IWTP. The particular issue was high volume, low concentration runoff, which might burden the Renton system or make it more difficult for the Renton Plant to meet its designated treatment requirements such as removal of 85 percent of BOD and solids. In actuality, the Renton treatment plant had not expressed an inability to accept the material (Ex. 45; Testimony of Jim Sifford). A desire or preference to minimize volume during peak rain periods was expressed. *Id.* Mr. Abbasi based the 250 mg/L cutoff for BOD transport to the Renton Plant on his belief Renton could not accept anticipated Port effluent with BOD under 250 mg/L. This belief was incorrect. Mr. Abbasi's conclusion was influenced by two other facts. First, the 250 mg/L BOD was the threshold originally developed in the AKART analysis for glycol vacuuming, a treatment technology the Port ultimately abandoned. Second, a dissolved oxygen sag analysis demonstrated that a BOD discharge of 250 mg/L or less would not result in a violation of the state water quality standard for dissolved oxygen in Puget Sound.

25.

As the Ecology permit writer, Mr. Abassi was charged with making a recommendation to the Department on the AKART engineering report. The normal procedure for determining AKART involves a determination of

technologically known treatment options, assessment of available treatment processes, and a finding as to whether requiring the known and available treatment is reasonable. (Ex. 14, Ecology Permit Writer's Manual, Chapter IV., Section 3).

26.

In this case, Mr. Abbasi used a different methodology, in evaluating AKART for the IWTP effluent. In responding to discovery in this case, Ecology described its AKART analysis as:

> Ecology made a determination that AKART in this particular case is a combination of biological system (i.e., high concentration flow transfer to Renton) and water quality based criteria for dissolved oxygen. The idea of having a stand alone on-site secondary treatment for the entire flow/or entire flow transfer to Renton did not appear to be reasonable due to the extremely high organic and hydraulic variability.

(Ex. 67, p.12).

27.

Mr. Abbasi testified at hearing that he considered biological treatment a known technology for treating BOD. He also considered the biological treatment an available technology for treating BOD. Rather than proceeding to determine whether requiring secondary treatment for all BOD was reasonable, through standard analysis of costs and economic impact, Mr. Abbasi agreed to the Port's

recommended BOD standard for direct discharge into Puget Sound of 250 mg/L. (Ex. 70 pp. 149-157). Mr. Abbasi indicated his acceptance of the 250 mg/L figure was based on his understanding Renton could not handle the entire effluent and the Port's study showing dissolved oxygen water quality standards in Puget Sound would not be violated by the 250 mg/L BOD discharge. (Ex. 70, pp. 146, 147, 153). The Port had conducted an effluent mixing zone study and followup testing, which indicated up to 1000 mg/L of BOD could be discharged into Puget Sound before the .2 sag in dissolved oxygen referenced in WAC 173-201A-030 would occur. (Exs. 115, 116, 117). Mr. Abbasi did not confine his AKART determination to technology-based considerations. He based the 250 mg/L figure on the ability of the receiving water (Puget Sound) to dilute the discharge below water quality standards. (Ex. 70, p.152). At the hearing, Mr. Abbasi acknowledged a shift in his thinking on AKART based on the further information available on the feasibility of the Renton plant accepting all of the Port's IWTP effluent.

28.

On June 25, 2002, Ecology issued a letter to Michael Feldman of the Port approving the Seattle Tacoma International Airport Engineering Report submitted in 1995, Addendums #1 &2 to the Engineering Report and AKART Analysis submitted in 1998 and 2002 respectively, and the Effluent Mixing Zone Study submitted in 1997. The only condition on the approval was the requirement that

AKART implementation be independent of the third runway completion date. (Ex. 37).

29.

At hearing, the parties provided disputed testimony on the on-site treatment technology available for the Port's BOD runoff. Port witnesses testified that on-site treatment of the BOD using the Port's expanded industrial wastewater lagoons could not occur due to Federal Aviation Administration (FAA) concern over hazards caused by birds near open surface waters. The FAA Advisory Circular discourages the development of facilities that will attract hazardous wildlife located within a certain proximity of the airport. (Ex. 197, App. C., p. 9). The Board recognizes the importance of airline safety, but notes the Wildlife Hazard Management Plan prepared for SeaTac requires the monitoring of any open water on Seattle Airport property, and the covering or removal of any open water area if necessary. (Ex. 197, P. 3-4). Lagoons 1 and 2 are currently netted, and Lagoon 3 has an aeration feature which disturbs the water surface in a way that discourages bird landings. (Fann testimony).

30.

Testimony was also provided regarding a BOD management scheme using a combination of Port storage lagoons, segregation of lagoons into separate treatment cells, and on-site aeration of the BOD waste stream. While on-site

treatment would not result in complete secondary treatment of BOD, it could reduce the quantity of BOD waste sent to the Renton treatment plant or the concentration of BOD discharged through marine outfall 001. (Fann testimony).

31.

STORMWATER DRAINAGE SYSTEM

The Stormwater Drainage System (SDS) collects stormwater from runways, taxiways, building roofs, and public roads, as well as from construction sites. The SDS drains about 1.5 square miles of currently permitted drainage area and includes 14 corresponding outfalls associated with the airport. The SDS discharges primarily to Miller Creek and Des Moines Creek, with a limited amount entering Gilliam Creek. The permitted discharge to Miller Creek drains to the Lake Reba Stormwater Facility prior to entering Miller Creek. Most of the drainage to Des Moines Creek passes through the Northwest Ponds detention facility prior to entering Des Moines Creek. (Ex. 4, pp. 38-42).

32.

The Port is required to sample stormwater discharges from outfalls into Des Moines Creek, the Northwest Ponds, Gilliam Creek, and Lake Reba. (Ex. 1 p. 36-38). Sampling is monthly for most parameters. The Port has suggested certain outfalls listed as testing sites do not contain stormwater associated with industrial activity, but detailed evidence on the activities as each site was not presented.

Past Port monitoring has generated data addressing the level of pollutants in stormwater outfall discharges. The parties dispute whether any of this evidence establishes violation of water quality standards. Water quality standards are measured in the receiving water. The evidence before the Board on water quality exceedances was conflicting and inconclusive. The Port's 1997 Stormwater Receiving and Environmental Monitoring Report found limited exceedances for zinc and copper. (Ex. 86). The informal reasonable potential analysis performed by Ecology in connection with the anticipated runoff from the Third Runway project found a potential for copper exceedances in only the Des Moines Creek area. (Ex. 95). The Port's Annual Stormwater Monitoring Report 2002-2003 (Ex. 80) measured copper and zinc at the outlet, rather than in the receiving water. The data indicated no exceedances of the MSGP benchmarks for copper for that year. Zinc readings exceeded the MSGP benchmarks for two outfalls – SDE4 and SDN1. No data for receiving water was contained in the report. The Summary Report of Preliminary Data Collected for the Site-Specific Water Quality Assessent (SSA) Study concluded water quality standards for copper and zinc were being met in Miller Creek and Walker Creek. Copper and zinc exceedances were noted for limited periods in Des Moines Creek. The sources of copper and zinc runoff are still to be investigated. Sampling data cited

by ACC/CASE shows data only from the outfall discharges (Ex. 166) and not from the receiving water. Very few instances of copper levels of concern are reported in the end of pipe sampling data. In sum, the evidence demonstrates only isolated instances of copper and/or zinc standards exceedances in Des Moines Creek.

34.

The Port has developed, and has been implementing, a Stormwater Pollution Prevention Plan (SWPPP) as its strategy for assuring compliance with water quality standards for stormwater discharges at SEATAC since 1994. Best management practices are used to avoid water quality impacts in nearby surface waters. The Port has not completed an AKART analysis for the SDS outfalls. (Ex. 4, p. 38). Ecology has elected to use its best professional judgment to assign appropriate and achievable effluent limits to assure adequate pollution prevention from each outfall. (Ex. 4, p. 38). The effluent limits are based on the EPA Stormwater Multi-Sector General Permit for Industrial Activities (MSGP). The effluent limits imposed on SDS outfalls in the 2003 Permit apply only to outfalls discharging directly to receiving waters and are subject to a compliance schedule that does not require compliance until December 31, 2007. (Ex. 1, p.62). Outfalls discharging to regional detention facilities use the limits as a basis for designing appropriate BMPs, rather than enforceable effluent limits.

35.

Several of the outfalls in the SDS drain through the Lake Reba Stormwater Management Facility (Lake Reba) to Miller Creek. While the Port owns and operates Lake Reba, drainage from other sources also enters the facility. In 1987, Ecology's water quality engineer and manager of the Port's NPDES Permit, Lisa Zinner, wrote to the Port regarding the status of Lake Reba as follows:

> I am writing to clarify the status of "Lake Reba", also known as "Little Lake Reba", is a stormwater detention facility that was constructed by the Port of Seattle in 1973. Lake Reba is contained in the larger Miller Creek Regional Detention Facility, which was built by King County in 1992. Miller Creek flows through the Miller Creek Regional Detention Facility. The outlet structure for Lake Reba controls the discharge from Lake Reba into Miller Creek.
>
> Lake Reba is not considered waters of the State because it is a constructed stormwater detention pond. Miller Creek, which flows through the Miller Creek Regional Detention Facility, is waters of the State.

(Ex 122)

36.

The Zinner letter on Lake Reba did not include any analysis from a wetlands scientist or supporting information. The testimony at hearing indicated Mr. Abbasi accepted the 1997 letter from Lisa Zinner as dispositive when he

evaluated proper limits on discharges to and from Lake Reba. Because Zinner's 1987 letter concluded Lake Reba was not a water of the state, Abbasi did not consider Lake Reba to be a water of the state, and thus effluent limits were not placed on the discharges into Lake Reba in the 2003 permit. Due to the perceived commingling of Port pollutants with pollutants generated by other entities in Lake Reba, effluent limits were not placed on the outfall from Lake Reba into Miller Creek.

37.

Testimony from Ecology wetland specialist Eric Stockdale indicated he has not been asked to evaluate the status of Lake Reba as a water of the state. Testimony from long-time residents indicated the area was a known wet area which neighbors referred to as "the wetlands." The geologic information available suggests peat soil underlying the Lake Reba area, similar to the material under the Northwest Ponds area. Ecology's wetland experts have made no formal or informal delineation of wetlands in the Lake Reba area.

38.

A number of other outfalls from the SDS system drain to the Northwest Ponds. Northwest Ponds is a stormwater detention area south of the airport formed by excavation of peat bogs. The status of Northwest Ponds as a water of the state is disputed by the parties.

39.

Port witness, Paul Fendt, provided a review of historical maps and aerial photographs, which led him to the conclusion the Northwest Ponds were constructed over several years during the period prior to 1960. According to Mr. Fendt, the area excavated for the Ponds was previously farmed in row crops. Between 1969 and 1970 the Port began directing stormwater from the airfield to the Northwest Ponds. Mr. Fendt contends if the Ponds area was ever a wetland, it lost its status as one prior to the excavation when row farming was conducted on the property. The Port was not involved in the Pond's excavation and does not own the property on which the Ponds are located.

40.

Ecology wetland specialist, Eric Stockdale, testified the Northwest Ponds area is a wetland, and as such, properly considered a water of the State. The Port performed a wetland delineation of the site in connection with the Clean Water Act Section 401 Certification and Section 404 Permit for construction of the third runway and associated facilities. The Port's delineation identified the Northwest Ponds as a wetland complex. The delineation was approved by both Ecology and the Army Corps of Engineers. Other studies, including the Port's Wetland Functional Assessment and Impact Analysis and Natural Resources Mitigation Plan also identify the Northwest Ponds as a wetland. The soils underlying the

Ponds are peat soils, which are indicative of wetlands and take thousands of years to accumulate. According to Mr. Stockdale, the evidence of farming activity on this parcel for a period of time does not eliminate the wetland characteristics of the parcel and is not inconsistent with its denomination as a wetland.

41.

The Port has provided certain water quality monitoring information in support of its argument the Northwest Ponds are a treatment facility. The water quality data is consistent with the water quality improvement normally occurring in a water detention facility and does not support its characterization as a water quality treatment facility. The Ponds have not historically been operated or maintained by the Port primarily as a formal treatment facility.

42.

In September 2003, Ecology issued NPDES permit WA 002465-1 to the Port of Seattle for operations at SeaTac International Airport. This permit was the latest in a line of permits relating to collection and discharge of water from the airport facility. Prior to 1994, the Port had an NPDES permit covering discharges from the Industrial Wastewater Treatment Plant (IWTP). An NPDES permit was issued in 1994 (Ex. 3) and another was issued in 1998 (Ex. 2) covering airport operations.

2003 PERMIT SECTIONS

43.

The 2003 NPDES permit is divided into three sections containing special conditions for (1) the IWS (Part I), (2) the SDS Non-construction Stormwater (Part II), and (3) Construction Stormwater (Part III). Parts I and II, which are at issue in this case, each include monitoring requirements, toxicity testing requirements, and schedules for coming into compliance with applicable regulations. The 2003 permit also contains a number of general conditions that are not in dispute. All parties agree that Mr. Abbasi's efforts on this permit were a substantial step forward in assuring proper handling of wastewater and stormwater from the site. Several Permit provisions, however, are in dispute.

44.

The Ecology Water Quality Program Permit Writer's Manual (Ex. 14) describes the NPDES permit process as follows:

> When the application is complete the permit writer derives the technology-based effluent limits. This is the core of the permit writer's task. Permit writers must always calculate technology-based effluent limits because they may be more stringent than water quality-based limits. The technology-based effluent limits are compared with effluent limits which are protective of surface or ground water or sediment quality standards (water quality-based limits). The most stringent of the two is placed in the permit. The effluent monitoring requirements and other conditions are placed in the permit. This proposed permit and fact sheet are reviewed internally, by the permittee and the public, and the permit is subsequently issued as a final permit.

(Permit Writers' Manual, II-2).

45.

Part I of the 2003 permit pertains to the IWTP effluent and identifies maximum flows and establishes certain numerical effluent limitations including limits on oil and grease, BOD, total suspended solids (TSS), and pH. The permit sets a daily maximum for BOD of 250 mg/L. The permit does not contain a limit for COD. Benchmarks have been set for BOD at 30 mg/L monthly average and for COD at 120 mg/L monthly average. A benchmark is a figure designed to give the permittee and the department information on whether the pollution prevention and treatment strategies in effect are likely to cause an exceedence of water quality standards. Benchmarks are not enforceable limits and exceeding them would not form the basis for Ecology enforcement action. Compliance with effluent limits and benchmarks for the IWTP is required only after the AKART pipeline project construction is complete in July 2007. (Ex. 1, p 32).

46.

Part I of the permit appears to establish a mixing zone for measuring compliance with water quality standards in Condition S.1.C. (Ex. 1, p. 13). A mixing zone is an area, specified in a permit, which surrounds an effluent discharge point. This area is not required to meet water quality standards, but

must allow passage of aquatic organisms and not upset the ecological balance of the receiving water. (Ex 14, p.G-9).

47.

Part I also requires regular monitoring of treated IWTP effluent for daily flow, weekly BOD, TSS, COD, total glycols, pH and oil and grease and quarterly monitoring for a number of other pollutants. Condition S.2.A. (Ex. 1 p. 13).

48.

Acute toxicity testing is required under Part I when the effluent BOD content is at 250 mg/L or below. This testing is designed to simulate the conditions that will exist after the AKART pipeline plan is implemented and BOD higher than 250 mg/L is being transported to the Renton treatment plant. Quarterly testing is required for effluent characterization for one year. Protocols for establishing limitations based on acute toxicity are outlined in the permit. Past monitoring indicates BOD levels have reached over 1,000 mg/L on a number of occasions. The Port's study of receiving waters indicates a dissolved oxygen (DO) violation would occur in Puget Sound with BOD discharges at that level. (Exs. 115, 116). The Port's representatives have also acknowledged the discharges prior to implementation of the AKART pipeline would fail acute toxicity testing. (Ex. 15, p. 10). Nevertheless, no interim effluent limitations have been placed on ITWP discharges in the 2003 permit.

49.

Chronic toxicity is also addressed in Part I of the permit. Chronic toxicity testing is to occur quarterly for one year, with samples being taken when BOD is at or below 250 mg/L. As in the case of acute toxicity testing, the chronic toxicity testing attempts to determine whether toxicity will be a problem once the AKART project is fully implemented. No attempt to measure chronic toxicity under current conditions or to place interim effluent limits based on acute toxicity is made in the 2003 permit.

50.

A compliance schedule was established in the 2003 permit allowing the Port to proceed with AKART construction for the proposed pipeline system as follows:

A. Design Completion August 15, 2003

B. Construction Begins February 1, 2004

C. Construction Complete December 31, 2006

D. Start Up Testing January 1, 2007 to June 30, 2007

E. Compliance Deadline July 1, 2007

(Ex. 1, p.32).

51.

Part II

In the 2003 Permit, Ecology used best professional judgment to assign effluent limits and/or benchmarks for SDS outfalls discharging directly to receiving waters based upon the EPA Stormwater Multi-Sector General Permit for Industrial Activities (MSGP). (Ex. Fact Sheet , p. 61). The parameters with limits include: turbidity – NTU-25, pH-between 6.5-8.5 S.U., oil and grease 15 mg/L with no visible sheen, and specific numeric limits for ammonia, nitrate/nitrite, copper, lead, and zinc. The final effluent limits do not include BOD and are only effective December 31, 2007, after completion of an allowed compliance schedule. (Ex. 1, pp. 36-37).

52.

Discharges to Lake Reba are not subject to numeric effluent limits. (Ex. 1, p. 38). Such discharges are subject to sampling and reporting on a monthly basis for flow, turbidity, pH, oil and grease, BOD, total glycol, ammonia, nitrate/nitrite, copper, lead, zinc, and total hardness. The Port is required to install all necessary treatment and source control best management practices (BMPs) in accordance with a compliance schedule. (Ex. 1, pp. 38-39). (Ex. 1, p. 62).

53.

Condition S3, Part II of the permit contains a narrative standard stating the permittee must comply with surface water quality standards, sediment

management standards, and groundwater quality standards. Ecology can issue a notice to the Permittee requiring modifications if the SWPPP is not adequate to assure compliance with water quality standards. Ecology may also require additional BMPs based on the current Stormwater Management Manual for Western Washington (SWWM) if the Port exceeds benchmark values for required sampling at certain outfalls. (Ex. 1, p. 47).

54.

Part II requires preparation of a Comprehensive Receiving Water and Stormwater Runoff Study analyzing receiving waters upstream and downstream of the Port's outfalls. The study is addressed in Condition S6. A number of parameters are identified for study including: total suspended solids, hardness, temperature, pH, total and dissolved heavy metals (zinc, copper, lead), total glycol, and oil and grease. The report also will analyze Lake Reba and the Northwest Ponds for their biological, limnological, physical, and chemical characteristics. The Port is required to work with other entities contributing to Lake Reba and the Northwest Ponds to develop a plan for attaining compliance with water quality standards for their respective receiving waters. The report is also to evaluate the impact of various discharges to the Northwest Ponds. (Ex. 1, p.54). The final study report is not required until the next permit application is submitted in April 2008.

55.

Acute toxicity testing is required for stormwater discharges to Miller, Creek, Des Moines Creek, Gilliam Creek, Walker Creek, and to Northwest Ponds to determine the presence and amount of acute (lethal) toxicity. Initial testing will be quarterly for one year with at least one sample collected during deicing and anti-icing operations. Sampling protocols are detailed in Part II, Condition S7. If toxicity is determined, the Port is required to submit a Toxicity Identification/Reduction Evaluation (TI/RE) plan to the Department. (Ex. 1, p. 58).

56.

Sublethal toxicity testing is addressed through required testing on in-stream samples collected from the stormwater discharging to Miller Creek, Des Moines Creek, Gilliam Creek, Walker Creek, and from all outfalls discharging to the Northwest Ponds. Monitoring is also to include the Lake Reba stormwater treatment facility outfall discharging to Miller Creek. At least one of the samples must be collected during deicing and anti-icing operations. The sublethal toxicity test specified is the Environment Canada, rainbow trout test. (Ex. 1, p. 60). The toxicity testing experts agree the 7-day embryo version of the Environment Canada test is the proper version to use for this situation. (Testimony Rick Cardwell, Randall Marshall). The permit is not entirely clear on this point. The

experts also agree the sublethal toxicity testing should be conducted on the receiving water rather than on the discharge. The Environment Canada 7-day embryo test is a recognized protocol, but it has not been subjected to the rigorous testing and verification necessary to obtain Environment Protection Agency (EPA) validation for use in establishing effluent limits.

Ecology Whole Effluent Toxicity Testing Coordinator, Randall Marshall, and Port expert, Rick Cardwell, agree testing windows are more appropriate than specific testing dates, given the variability of weather conditions and attendant runoff. Both experts also agree the permit references to compliance limits based on test results are inappropriate. Mr. Marshall differs from Mr. Cardwell by asserting the TI/RE analysis under WAC 173-205-100 would be appropriate based upon results from the Environment Canada test.

Mr. Marshall prepared a memorandum to Ed Abbasi suggesting certain language for inclusion in the sublethal toxicity section of the permit. (Ex. 158). This material was not fully incorporated into the permit, although it was Mr. Abbasi's intent to prepare a permit condition consistent with Mr. Marshall's proposed language.

57.

The Port is required to use monitoring results to identify outfalls with potentially contaminated runoff to the Northwest Ponds, Miller Creek, Des

Moines Creek, Walker Creek, and Gilliam Creek, and submit an AKART analysis Engineering Report to Ecology for review, approval, and final determination. The engineering report is to contain an action plan and a compliance schedule for implementation of the AKART determination. (Ex. 1, p. 62).

58.

The 2003 permit sets forth a compliance schedule for Part II outfalls subject to effluent limits as follows:

Final Engineering Report	January 31, 2006
Start Construction of Approved BMPs	July 31, 2006
Complete Construction of Approved BMPs	July 31, 2007
Compliance Deadline for Meeting Effluent Limits	December 31, 2007

For outfalls identified in Part II, Table 2 (which drain to the Lake Reba detention facility) the parameters are to be used as benchmarks for the design and sizing of appropriate BMPs. The compliance schedule for such outfalls is:

Final Engineering Report	January 31, 2006
Start Construction	July 31, 2006
Complete Installation of Approved BMPs	July 31,

2007

(Ex. 1, p. 62).

59.

The Port and Ecology entered into a Stipulation during the hearing regarding Legal Issues 1, 5, 11, 13, and 14 from the Pre-Hearing Order. ACC and CASE have submitted comments opposing certain of the provisions of the Stipulation.

60.

Any Conclusion of Law deemed to be properly a Finding of Fact is hereby adopted as such.

Based upon the foregoing Findings of Fact, the Board makes the following

CONCLUSIONS OF LAW

1.

The Board has jurisdiction over the parties and the issues in the case pursuant to RCW RCW 43.21B.110(1)(c). The burden of proof is upon the appealing party(s) as to each of the legal issues in the case and the Board considers the matter *de novo* giving deference to Ecology's expertise as the administering agency for NPDES permits. *Port of Seattle v. Pollution Control Hearings Board*, 151 Wn.2d 568, 90 P.3d 659 (2004). Pursuant to WAC 371-08-

540(2), “In those cases where the board determines that the department issued a permit that is invalid in any respect, the board shall order the department to reissue the permit as directed by the board and consistent with all applicable statutes and guidelines of the state and federal governments.”

2.

The Federal Water Pollution Control Act (CWA) was enacted with the broad policy objective of restoring and maintaining the chemical, physical, and biological diversity of the nation’s waters. One action in furtherance of this goal was creation of the National Pollutant Discharge Elimination System (NPDES) permit program. *Puget Soundkeeper Alliance v. Ecology*, 102 Wn. App. 783, 788, 9 P.3d 892 (2000). In Washington State, the Department of Ecology has been given authority to administer the NPDES permit program under delegation from the Federal Environmental Protection Agency.

3.

The CWA allows states to adopt and enforce additional water pollution limits, so long as they are no less stringent than the federal standards. The State of Washington has its own Water Pollution Control Act, (WPCA) codified as RCW Chapter, 90.48. The policy of the state WPCA emphasizes the need to protect and restore the waters of the state:

It is declared to be the public policy of the state of Washington to

> maintain the highest possible standards to insure the purity of all waters of the state consistent with public health and public enjoyment thereof, the propagation and protection of wild life, birds, game, fish and other aquatic life, and the industrial development of the state, and to that end require the use of all known available and reasonable methods by industries and others to prevent and control the pollution of waters of the state of Washington. Consistent with this policy, the state of Washington will exercise its powers, as fully and as effectively as possible, to retain and secure high quality for all waters of the state. The state of Washington in recognition of the federal government's interest in the quality of the navigable waters of the United States, of which certain portions thereof are within the jurisdictional limits of this state, proclaims a public policy of working cooperatively with the federal government in a joint effort to extinguish the sources of water quality degradation, while at the same time preserving and vigorously exercising state powers to insure that present and future standards of water quality within the state shall be determined by the citizenry, through and by the efforts of state government, of the state of Washington.

RCW 90.48.010.

4.

The Water Resources Act of 1971 also identifies water quality as a fundamental goal in utilizing and managing the state's waters:

> (b) Waters of the state shall be of high quality. Regardless of the quality of the waters of the state, all wastes and other materials and substances proposed for entry into said waters

> shall be provided with all known, available, and reasonable methods of treatment prior to entry. Notwithstanding that standards of quality established for the waters of the state would not be violated, wastes and other materials and substances shall not be allowed to enter such waters which will reduced the existing quality thereof, except in those situations where it is clear that overriding considerations of the public interest will be served…

RCW 90.54.020(3)(b).

5.

In administering the NPDES permit process, Ecology is engaged in implementing the clean water goals and policies enunciated in state and federal law. The Ecology Water Quality Program Permit Writer's Manual (Ex. 14) describes the NPDES permit process as follows:

> When the application is complete the permit writer derives the technology-based effluent limits. This is the core of the permit writer's task. Permit writers must always calculate technology-based effluent limits because they many be more stringent than water quality-based limits. The technology-based effluent limits are compared with effluent limits which are protective of surface or ground water or sediment quality standards (water quality

based limits). The most stringent of the two is placed in the permit. The effluent monitoring requirements and other conditions are placed in the permit. This proposed permit and fact sheet are reviewed internally, by the permittee and the public, and the permit is subsequently issued as a final permit.

(Ex. 14, II-2).

6.

The Port's operations at Seattle –Tacoma International Airport are governed by an individual NPDES permit covering discharges from: (1) the IWS, (2) the SDS, and (3) Construction Stormwater. The permit under appeal is WA 002465-1 issued in September 2003. The Port of Seattle, ACC/CASE, and PSA have raised a number of different challenges to the permit, which are addressed by topic below. The Board recognizes each permit should build on the previous permit as knowledge is gained, uncertainties reduced and technology developed.

AKART for IWS

7.

The requirement to apply all known available and reasonable technology to the IWTP effluent is undisputed in this case. The controversy centers on whether Ecology's approval of the Port's AKART analysis was consistent with governing AKART statutes and regulations. AKART is a technology-based standard in Washington's water pollution and water resources laws. The

technology-based focus of the AKART requirement is emphasized in several relevant statutes. The Water Pollution Control Act specifically directs that conditions are to be placed on discharge permits regardless of the quality of receiving water:

> In order to improve water quality by controlling toxicants in wastewater, the department of ecology shall in issuing and renewing state and federal wastewater discharge permits review the applicant's operations and incorporate permit conditions which require all known, available, and reasonable methods to control toxicants in the applicant's wastewater. Such conditions may include, but are not limited to: (1) Limits on the discharge of specific chemicals, and (2) limits on the overall toxicity of the effluent. The toxicity of the effluent shall be determined by techniques such as chronic or acute bioassays. **Such conditions shall be required regardless of the quality of receiving water and regardless of the minimum water quality standards.** In no event shall the discharge of toxicants be allowed that would violate any water quality standard, including toxicant stands, sediment criteria, or dilution zone criteria.

RCW 90.48.520. (emphasis added). This technology-based foundation for AKART is also enunciated in RCW 90.52.040:

> Except as provided in RCW 90.54.020(3)(b), in the administration of the provisions of chapter 90.48 RCW, the director of the department of ecology shall, regardless of the quality of the water of the state to which wastes are discharged or proposed for discharge and regardless of the minimum water quality standards established by the director for said waters, require wastes to be provided with all known, available, and

> reasonable methods of treatment prior to their discharge or entry into waters of the state.

RCW 90.52.040. *See also,* RCW 90.54.020(3)(b). The Ecology permit writers' manual provides guidance in this area, emphasizing the need to apply AKART even if water quality standards are not threatened: "This law explicitly states that AKART is required even if it results in more stringent treatment than required to meet water quality standards. This is the basic philosophical approach found in the Clean Water Act." (Ex. 14, IV. 30) (referring to RCW 90.54.020(3)(b)).

8.

In this case, the Ecology permit writer failed to maintain the required distinction between technology-based standards under AKART and water quality based standards. When Mr. Abbasi was assigned to take over the NPDES permit for the airport in late 2001, the Ecology file had been neglected for over two years. The AKART engineering analysis from 1998 (Addendum 1) had not been formally approved and the permit renewal process was looming. Mr. Abbasi immediately began to familiarize himself with the airport facility and the NPDES permit issues. He met with engineers for the Port to obtain background information and briefly reviewed prior Ecology permit activity. Given the resources available, Mr. Abbasi chose to accept the prior Ecology engineering work on the project and basically begin his review with the pending approval and

permit issues. The result is that the starting point of the AKART analysis was the 250 mg/L BOD threshold developed based on glycol vacuuming.

9.

Secondary treatment of BOD is widely recognized as a known treatment technology. Secondary treatment can be achieved through various types of technology applied on-site or at an off-site treatment facility. In evaluating the AKART requirement for BOD from the IWTP, Mr. Abbasi considered secondary treatment to be known. He further considered secondary treatment available through the Renton treatment plant, to the extent it would not harm the Renton plant. He believed the Renton plant was unable to accept all the anticipated BOD effluent from the Port's IWTP. This was not correct. The evidence shows King County had not indicated it was unable to accept the Port's BOD effluent. To the contrary, the County had suggested it anticipated no problem in working through the details of accepting the effluent. (Ex. 45). Under the circumstances, secondary treatment at the Renton plant was an available technology.

10.

The AKART criteria, in question in the case, is whether sending all BOD contaminated effluent from the IWTP to Renton for disposal is reasonable. In the 1998 Addendum 1 to the AKART engineering report, the Port's recommended alternative was to send all BOD contaminated effluent to Renton for secondary

treatment. Before Mr. Abbasi made a determination on the Addendum 1 AKART proposal, the Port indicated a desire to modify the 1998 plan through submission of a new engineering Addendum. (Addendum 2). The new proposal recommended use of an on-line BOD analyzer, which would allow the Port to segregate BOD-contaminated effluent based upon the concentration of BOD. The Port proposed using the previously identified pipeline plan to transport effluent with BOD concentrations over 250 mg/L to Renton for disposal, while effluent with less than 250 mg/L would be discharged to Puget Sound without further treatment.

11.

Mr. Abbasi indicated he accepted the segregation with BOD under 250 mg/L going into Puget Sound because it seemed reasonable under the circumstances. In response to discovery, Ecology described the AKART analysis as a combination of technology and water quality based considerations, stating: "Ecology made a determination that AKART in this particular case is a combination of biological system (i.e., high concentration flow transfer to Renton) and water quality based criteria for dissolved oxygen." (Ex. 67, p.12). This approach deviates from the required technology-based determination of AKART and violates the specific prohibition on minimizing technology-based controls based on the quality of the receiving waters.

12.

After finding secondary treatment was a known and available technology for treating BOD, the next step should have been a determination of whether requiring secondary treatment was economically reasonable. AKART requires both an engineering and an economic evaluation. (Ex. 14). In this case, neither Addendum 1 nor Addendum 2 contained the information needed for Ecology to conduct an economic analysis of the AKART alternatives. The cost figures in Addendum 2 related primarily to showing the segregation approach would result in cost savings over sending all BOD contaminated effluent to the Renton plant. The proper inquiry would require economic information never presented to Ecology. Ecology's Permit Writer's Manual provides test to apply in determining the economic reasonableness of a proposed treatment technology. In the case of the Port's AKART analysis, Ecology did not use any of these tests.

13.

Given Ecology's failure to apply the proper analysis in making the AKART determination for BOD contaminated effluent from the IWTP, the issue must be remanded to Ecology for further evaluation to determine whether sending all BOD contaminated effluent to Renton meets the economic reasonableness requirements of AKART or whether utilizing any type of the BOD segregation strategy, combined with lagoon management and/or aeration compatible with

appropriate safety measures, can meet requirements of AKART without relying on the ability of the receiving water to dilute anticipated effluent. This complete AKART analysis should incorporate consideration whether total pounds of BOD discharge should be limited in the Permit.

14.

On summary judgment, ACC/CASE and PSA argued that sending all BOD contaminated effluent to the Renton treatment plant was economically reasonable as a matter of law on the basis that King County and Val Vue Sewer District would charge the Port the same rates applicable to other waste dischargers. However, economic reasonableness is not guaranteed by a fee structure in which all waste dischargers pay the same. Rather, economic reasonableness includes an analysis of the cost of removing a certain quantity of pollution.

IWTP AS A POTW

15.

ACC/CASE (and PSA?) have argued secondary treatment for IWTP effluent is required by statute because the IWTP is properly considered a publicly owned treatment works (POTW). The Clean Water Act requires all POTWs to achieve "effluent limitations based upon secondary treatment." 33 U.S.C.

§1311(b)(1)(B). The issue becomes whether the IWTP should be categorized as a publicly owned treatment works. Throughout the permit history for the IWTP, extending back into the 1980s, Ecology has treated the IWTP as an industrial facility. The current challenge to the IWTP's status as an industrial facility comes after a significant amount of engineering analysis to determine AKART has been performed over the course of over eight years (1994-2002). Such analysis would not be relevant to a statutorily mandated standard requiring secondary treatment for POTWs.

The argument raised by ACC/CASE and PSA suggests the broad definition of POTW contained in the Clean Water Act §1292 applies to the IWTP:

> The term "treatment works" means any devices and systems used in the storage, treatment, recycling, and reclamation of municipal sewage or industrial wastes of a liquid nature to implement section 1281 of this title, or necessary to recycle or reuse water at the most economical cost over the estimated life of the works, including intercepting sewers, outfall sewers, sewage collection systems, pumping, power, and other equipment, and their appurtenances; extensions, improvements, remodeling, additions, and alterations thereof; elements essential to provide a reliable recycled supply such as standby treatment units and clear well facilities; and any works, including site acquisition of the land that will be an integral part of the treatment process (including land used for the storage of treated wastewater in land treatment systems prior to land application) or is used for ultimate disposal of residues resulting from such treatment.

33 U.S.C. §1292. This definition is contained in the subchapter of the Clean Water Act relating to grant programs designed to provide federal funds for construction of treatment works.

16.

Ecology, in exercising its delegated authority from the EPA to administer the NPDES permit system uses the term "domestic wastewater facilities" rather than POTWs. Ecology defines "domestic wastewater facilities" as: "[A]ll structures, equipment, or processes required to collect, carry away, treat, reclaim, or dispose of domestic wastewater together with such industrial waste as may be present." WAC 173-221-030(1). Given the EPA's regulatory oversight in delegating program implementation to Ecology, it can be concluded that Ecology's definitions do not conflict with EPA's POTW definition for purposes of secondary treatment. Since the IWTP does not treat any domestic wastewater, it does not fall within Ecology's definition pertaining to secondary treatment.

17.

In support of the argument that the IWTP can be a POTW despite its wholly industrial nature, ACC/CASE and PSA point to a single case from the EPA's Environmental Appeals Board, *In re: City of Port St. Joe and Florida Coast Paper Company*, NPDES Appeal Nos. 94-8 and 94-9, 7 E.A.D. 275 (July 30, 1997). The *City of Port St. Joe* case does not resolve the issue facing this

Board. The City of Port St. Joe owned and operated a wastewater treatment plant. The plant had been funded, in part, by federal grant funds designated for POTWs. The plant influent was primarily industrial process waste from a paper company. Less than five percent of the influent was from the City's sanitary sewer system. The City and its industrial customer challenged the designation as a POTW and the attendant requirement to provide secondary treatment. The EPA Board found that although the mix of influent was unusual for a POTW, the plant was still treating a mix of municipal and industrial waste, thereby falling within the definition of 40 C.F.R. §122.2. The *City of Port St Joe* decision, however, does not provide guidance on whether a system treating no domestic sewage is properly considered a POTW for purposes of the secondary treatment requirement.

18.

The Board is not convinced the federal definitions conflict with or preclude Ecology's determination the IWTP is an industrial facility rather than a POTW. Ecology's long-standing characterization of the facility is entitled to deference and should not be lightly overturned. ACC/CASE and PSA have not made a sufficient case for reversing the IWTP's status as an industrial facility.

BOD CONDITIONS

19

The 2003 Permit contains BOD effluent limits in Condition S1 (Ex. 1, p. 11) for the IWTP discharge through outfall 001 to Puget Sound. A daily maximum of 250 mg/L and a benchmark maximum monthly average concentration of 30 mg/L are stated. The 250 mg/L daily maximum only becomes applicable one year after successful implementation and completion of the AKART project, which is expected to be July 1, 2007 (Ex. 1, p.11 – Table 1-A, Note d.). The 30 mg/L benchmark is a goal the Port would be working toward through its Adaptive Management Program utilizing BMPs. The permit does not consider exceeding the benchmark maximum a violation of the permit as long as the Port addresses plans to eliminate such exceedances adequately in its SWPPP and annual updates. (Ex. 1, p. 12, Table 1-B, Note 1). The Port challenges whether the BOD limits in the permit relating to the numeric benchmarks, testing requirements, and provisions for exceeding the benchmarks, are lawful and appropriate.

20.

The Port appears to be contending the 250 mg/L daily maximum standard should be allowed as a maximum monthly average based upon Ecology's AKART finding that effluent at or below 250 mg/L can be discharged into Puget Sound. The Board has concluded Ecology's AKART determination was deficient, so it cannot be used to justify a 250 mg/L maximum monthly average.

The permit's 30 mg/L maximum monthly average was initially placed in the draft permit as an effluent requirement, but was modified in the final permit to a benchmark. Provisions in the EPA's Multi-Sector General Permit (MSGP), relating to air transportation facilities contain the 30 mg/L standard as a benchmark for airports operating under the federal permit. While the MSGP is not directly applicable to the Port's individual NPDES permit, it is indicative of the standards being observed at many other airports across the country. No site-specific evidence was submitted showing the 30 mg/L standard cannot be met or that it is inappropriate for the Port facility. Allowing the Port to discharge at 250 mg/L maximum monthly average would, in essence, allow the Port to pump the BOD equivalent of untreated domestic sewage into Puget Sound. Many small cities and towns with fewer resources than the Port are being required to treat BOD to meet an effluent limit of 30 mg/L maximum monthly average in their sewage treatment facilities. In this permit, the 30 mg/L standard is being imposed only as a benchmark. The Port will be allowed to engage in an adaptive management process to meet the benchmark before any type of violation would be found. The Port has failed to show the BOD benchmark or attendant testing and BMP development are unlawful or inappropriate.

COMPLIANCE WITH WATER QUALITY STANDARDS

ACC/CASE assert the Permit fails to satisfy legal requirements to include any more stringent limitation necessary to meet water quality standards for discharges to Des Moines Creek, Gilliam Creek, the Northwest Ponds, Lake Reba, and Miller Creek. In order to prevail on this issue ACC/CASE must show that water quality standards are not being met in the relevant receiving waters and that more stringent limitations are needed to assure water quality standards will be met. The evidence before the Board on water quality exceedances in the relevant receiving waters is inconclusive. The Port's 1997 Stormwater Receiving and Environmental Monitoring Report found limited exceedances for zinc and copper but it relates to a period before some of the current BMPs were operational. (Ex. 86). The informal reasonable potential analysis performed by Ecology in connection with the anticipated runoff from the Third Runway project found a potential for copper exceedances in only the Des Moines Creek area and its focus was on new construction, not existing outfalls. (Ex. 95). The Port's Annual Stormwater Monitoring Report 2002-2003 (Ex. 80) measured copper and zinc at the outlet, rather than in the receiving water. The data indicated no exceedances of the MSGP benchmarks for copper for that year. Zinc readings exceeded the MSGP benchmarks for two outfalls – SDE4 and SDN1. No data for receiving water was contained in the report. The Summary Report of Preliminary Data Collected for the Site-Specific Water Quality Assessent (SSA) Study concluded

water quality standards for copper and zinc were being met in Miller Creek and Walker Creek. Copper and zinc exceedances were noted for limited periods in Des Moines Creek. The sources of copper and zinc runoff are still to be investigated. Sampling data cited by ACC/CASE shows data only from the outfall discharges (Ex. 166) and not from the receiving water, but very few instances of copper levels of concern are reported in the end of pipe sampling data. Overall, the evidence demonstrates only isolated instances of copper and/or zinc standards exceedances in Des Moines Creek.

22.

The issue then becomes whether the permit impermissibly fails to require more stringent limitations necessary to assure stormwater discharges meet water quality standards. In this case the permit requires the Port to implement BMPs designed to address any water quality exceedances. (Condition S5, Ex. 1, p. 46). The Port has already engaged in a significant effort to trace the cause of zinc pollution and has begun an aggressive and innovative program to minimize any zinc sources through the use of material designed to inhibit zinc runoff from galvanized metal. The Port is also engaged in the SSA Study required by the §401 certification, attempting to further pinpoint sources of copper and zinc contamination of Des Moines Creek and to develop meaningful strategies to eliminate or minimize the contamination. The NPDES permit also contains a

requirement for a Comprehensive Receiving Water Study, which will also develop the detailed information necessary to identify needed and effective BMPs. BMPs are the recognized method for addressing stormwater runoff in both state and federal law.

> Compliance with AKART by regulation includes implementation of BMPs. WAC 173-226-070(1)(d). The Department of Ecology specifically found with regard to the subject permit that the selection and implementation of appropriate BMPs from the SWMMM constitutes AKART. (Final Fact Sheet, p. 10 (November 18, 1995). BMPs are considered the primary means for achieving compliance with water quality standards. WAC 173-201A-160(3). The Environmental Protection Agency has similarly deemed BMPs to control stormwater discharges to constitute BAT and BCT. 40 C.F.R. §122.44(k); 40 C.F. R. §122.26(c)(ii)(C)-(O).

Save Lake Sammamish v. Ecology, Dept. of Transportation, PCHB No. 95-141 (Order Granting Partial Summary Judgment to Respondents, June 27, 1996). *See also,* (Ex. 4, p. 38).

23.

The Port is required to pursue all necessary BMPs by Condition 1 of the §401 Certification for the Third Runway decision and by the terms of the 2003 NPDES permit requiring study of receiving waters (Condition S6) and development of effective BMPs (Condition S5). Meaningful efforts are underway to pinpoint and eliminate the source of any isolated zinc and copper exceedances. Once

critical information is available, the Port is required to address copper and zinc problems, including the use of enhanced BMPs as needed.[1] ACC/CASE have failed to show the BMP process is failing to protect water quality or that additional, and more stringent, steps are required by law.

SWPPP ADEQUACY

24.

ACC/CASE claim the Permit's requirement for the Stormwater Pollution Prevention Plans is inadequate because it deviates from the requirements set forth in the EPA's MSGP (Ex. 82). Several individual differences between the MSGP SWPPP provisions and the Port's individual NPDES permit SWPPP are noted in the appellants' hearing brief. The MSGP contains information relating to general permit requirements, which may, or may not, be helpful in establishing appropriate provisions in an individual permit. The MSGP serves only as persuasive authority and is not binding in any way on Ecology's issuance of the Port's permit. The 2003 NPDES Permit was the result of significant site-specific analysis by professional engineers. The terms were ultimately determined by an exercise of best professional judgment. Mere inconsistency with the MSGP is not a sound basis for invalidating the SWPPP provisions. ACC/CASE have failed to provide evidence of any harms associated with specific SWPPP deviations from the MSGP. The Port's required SWPPP will be updated during the course of the

permit to implement any BMPs necessary to address water quality problems identified in the Port's Comprehensive Stormwater Study and its ongoing monitoring program. (Condition S5, Ex. 1 pp. 46-47). Under the circumstances, no adequate basis for invalidating the SWPPP has been demonstrated.

COMPLIANCE SCHEDULES

25.

ACC/CASE and PSA have challenged whether the compliance schedules contained in the 2003 Permit satisfy legal requirements governing: (1) implementation of AKART at the IWTP, (2) implementation of AKART for stormwater discharges to Des Moines Creek, Gilliam Creek, and the Northwest Ponds, (3) compliance with water quality standards for IWTP discharges, (4) compliance with water quality standards for stormwater discharges to Des Moines Creek, Gilliam Creek, and Northwest Ponds, (5) compliance with water quality standards for discharges to Lake Reba and Miller Creek.

26.

In the summary judgment decision in this case, the Board held that effluent from the IWTP was properly categorized as industrial wastewater. As a result, the federal regulations governing compliance schedules for stormwater are inapplicable. ACC/CASE and PSA point to WAC 173-201A-160 as the relevant state regulation for determining the maximum length of a compliance schedule

for the IWTP's AKART implementation. Ecology and the Port contend WAC 173-220-140 is the governing regulation. WAC 173-201A-160 is contained in the chapter of Ecology regulations addressing water quality standards. The regulation covering compliance schedules states:

> **(4) Allowance for compliance schedules.**
> (a) Permits, orders, and directives of the department for existing discharges may include a schedule for achieving compliance with water quality criteria contained in this chapter. Such schedules of compliance shall be developed to ensure final compliance with all water quality-based effluent limits in the shortest practicable time. Decisions regarding whether to issue schedules of compliance will be made on a case-by-case basis by the department. Schedules of compliance may not be issued for new discharges. Schedules of compliance may be issued to allow for: (i) construction of necessary treatment capability; (ii) implementation of necessary best management practices; (iii) implementation of additional storm water best management practices for discharges determined not to meet water quality criteria following implementation of an initial set of best management practices; (iv) completion of necessary water quality studies; or (v) resolution of a pending water quality standards' issue through rule-making action.
>
> (b) For the period of time during which compliance with water quality criteria is deferred, interim effluent limitations shall be formally established, based on the best professional judgment of the department. Interim effluent limitations may be numeric or nonnumeric (e.g. construction of necessary facilities by a specified date as contained in an ecology order or permit).
>
> (c) Prior to establishing a schedule of compliance, the

department shall require the discharger to evaluate the possibility of achieving water quality criteria via nonconstruction changes (e.g., facility operations, pollution prevention). Schedules of compliance may in no case exceed ten years, and shall generally not exceed the term of any permit.

WAC 173-210A-160(4).

The ten year maximum in WAC 173-201A-160(4)(c) by its terms refers to compliance with water quality standards. By contrast, the regulation governing compliance schedules in the NPDES chapter of Ecology's regulations covers additional items:

(1) The department shall establish schedules and permit conditions as follows to achieve compliance with applicable effluent standards and limitations, water quality standards, and other legally applicable requirements:

(a) With respect to any discharge which is found not to be in compliance with applicable effluent standards and limitations, applicable water quality standards, or other legally applicable requirements listed in WAC 173-220-130, the permittee shall be required to take specific steps to achieve compliance with the following:

Any legally applicable schedule of compliance contained in

(i) Section 310 of FWPCA;
(ii) Applicable effluent standards and limitations;
(iii) Water quality standards;
(iv) Applicable requirements listed in WAC 173-220-130, 173-220-150, and 173-220-210;

> (b) Schedules of compliance shall set forth the shortest, reasonable period of time, to achieve the specified requirements, such period to be consistent with the guidelines and requirements of the FWPCA.
>
> (2) In any case where the period of time for compliance specified in subsection (1)(a) of this section exceeds one year, a schedule of compliance shall be specified in the permit which will set forth interim requirements and the dates for their achievement; however, in no event shall more than one year elapse between interim dates. If the time necessary for completion of the interim requirement (such as construction of a treatment facility) is more than one year and is not readily divided into stages of completion, interim dates shall be specified for the submission of reports of progress toward completion of the interim requirement.

WAC 173-220-140.

ACC/CASE and PSA argue AKART compliance will be without any deadline if the terms of WAC 173-201A-160 are not applicable. While the facts of this case present an extreme example of time passing without full AKART implementation, the language of WAC 173-220-140 is the more directly applicable regulation.

By imposing a standard based upon the "shortest, reasonable period of time," the regulation does not leave AKART implementation to the applicant's discretion. Ecology has the duty under the terms of WAC 173-220-140 to impose a compliance schedule for AKART implementation that achieves compliance at the

earliest possible date. Serious questions about Ecology's performance of that duty have been raised in this case. In light of the prior permits' reliance on AKART implementation in identifying technology-based numeric effluent standards, Ecology's significant delay in even assigning a person to actively work the file is inconsistent with its duty to assure timely AKART compliance. At this point, however, the 2003 permit is the document on appeal to this Board. The 2003 Permit allows a compliance schedule for design, construction, and testing of a pipeline to convey waste to the Renton treatment plant for disposal. The evidence establishes the pipeline construction schedule is the minimum necessary for completing the project. As such, the compliance schedule for IWTP AKART construction meets the standard enunciated in WAC 173-220-140.

27.

A similar analysis applies to the challenge raised to AKART compliance for discharges to Des Moines Creek, Gilliam Creek, and the Northwest Ponds. The provisions of WAC 173-220-140 apply to the permit provisions. The 2003 Permit allows over two years (January 31, 2006) for the Port to prepare an AKART engineering analysis for the SDS outfalls. It then allows eighteen months to construct and implement the identified BMPs. (Ex. 1, p. 62). While the Port is allowed a significant period of time to prepare an AKART engineering report, insufficient evidence was presented to conclude this time period was

longer than the shortest reasonable time. Accordingly, the Board finds no violation of WAC 173-220-140.

28.

ACC/CASE and PSA also challenge whether the compliance schedules afforded to the IWTP and the SDS discharges are consistent with requirements for compliance with water quality standards. Unlike AKART compliance, water quality standards compliance is specifically addressed by WAC 173-201A-160 (set forth above). The evidence before the Board demonstrates the IWTP effluent does cause violations of water quality standards. This evidence is contained in the effluent monitoring reports showing BOD levels over 1,000 mg/L, which would cause a dissolved oxygen (DO) violation in Puget Sound under the Port's own modeling. (Exs. 115, 116). The Port has also admitted that, if tested today, the IWTP effluent would fail the acute and chronic WET tests laid out in the permit. (Ex. 15, p. 10).

Given the Port's failure to come into compliance with water quality standards for IWTP effluent for over ten years, allowing a compliance schedule delaying water quality compliance further is in violation of WAC 173-201A-160(4)(c). The permit provisions relating to IWTP effluent compliance with water quality standards should be remanded to Ecology. While it may not be physically possible for the Port to immediately comply fully with water quality

standards, Ecology must, at a minimum, impose narrative requirements requiring use of all non-construction measures to achieve water quality criteria and impose interim effluent limitations (narrative and/or numeric). WAC 173-201A-160(4)(b)&(c). The expanded lagoon system and the Port's ability to contain much of a high BOD first flush in one of the smaller lagoons for aeration, concentration and/or alternative disposal need to be explored. Continuing the same practice of discharging highly polluted water into Puget Sound without effective BOD treatment is unacceptable under the governing regulations.[2]

29.

The SDS system discharges entering Des Moines Creek, Gilliam Creek, and the Northwest Ponds present a slightly different situation. ACC/CASE and PSA have not presented adequate evidence to the Board to establish the discharges into these water bodies actually cause or contribute to a violation of water quality standards. At one point, the standard for zinc was being exceeded, but subsequent BMPs implemented by the Port have reduced the zinc discharges. The Port asserts it is meeting water quality standards for the relevant discharges and the appealing parties have not met the burden of showing more than isolated instances of failure to meet water quality standards. In the absence of persuasive evidence water quality standards are not currently being met in the receiving water, a compliance schedule is not needed, and the 2003 Permit conditions

relating to compliance with water quality standards for discharges into Des Moines Creek, Gilliam Creek and the Northwest Ponds do not violate WAC 173-201A.160(4)(c) or 33 U.S.C. §1342(p)(4)(a).

30.

The final compliance schedule challenge relates to compliance with water quality standards for discharges to Lake Reba and Miller Creek. The proper characterization of Lake Reba is a separate issue in this case. To the extent the Port is responsible for discharges to and/or from Lake Reba, the water quality maximum compliance schedule of WAC 173-201A.160(4)(c) is applicable. In the absence of a scientific characterization of Lake, it is premature for the Board to consider whether there has been a failure to meet water quality standards in the receiving water of this lake. The evidence before the Board on Miller Creek does not establish water quality standards are not being met. In the absence of definitive evidence demonstrating failure to meet water quality standards in the receiving water, a compliance schedule is not needed, and the Board finds no violation of WAC 173-201A-160(4)(c) or 33 U.S.C. § 1342(p)(4)(a).

NORTHWEST PONDS

31.

In establishing the requirements in Part II of the Permit, Ecology treated the Northwest Ponds as waters of the state. The Port contests this characterization

and its attendant effluent monitoring and limits. The evidence established the Northwest Ponds were created through mining of peat material in or around the 1960's. Prior to the peat mining, the property may have been used at times for farming row crops. The Port argues the Northwest Ponds are created wetlands and/or treatment wetlands and fall outside the requirement for compliance with water quality criteria. WAC 173-201A.020 (1997). In order to support such a contention, the Port would have to prove the Ponds were intentionally created on a nonwetland site. The evidence, however, shows otherwise. The Northwest Ponds were created during a peat mining operation, not as part of a storm water detention or treatment project. The expert testimony indicated the peat soil forms in wetlands over thousands of years and any farming that occurred in the area did not serve to modify its nature as a wetland. Other experts examining the area in connection with the Port's §401 certification process have also considered the Northwest Ponds as a wetland. Ecology correctly considered the Northwest Ponds waters of the state and properly imposed monitoring requirements and effluent limits on discharges into the Ponds.

LAKE REBA

32.

Ecology did not treat Lake Reba as a water of the state for purposes of this Permit. ACC/CASE and PSA claim this was an error. Ecology had previously

taken the position that the facility was not a water of the state in a letter from stormwater engineer Lisa Zinner to the Port. (Ex. 122). Ecology wetland experts had not investigated the area to determine whether the site on which the facility was constructed is properly considered a water of the state. The evidence shows the peat soils underlying the area are similar in nature to those at the Northwest Ponds, that the area was historically known by neighbors as a wetland before the Port began diverting stormwater into it after construction of the second runway, and that natural stream courses may have underlain what is not Lake Reba. Documentary evidence appears to include Lake Reba in a wetland area. (Ex. 195, Figure 2, 1-2) (Ex. 196, p. 1-13, Table 1-2).

33.

As to Lake Reba's characterization, there are, in fact, two Ecology determinations in this permit and appeal. First, Lisa Zinner's letter in 1987 concluded that Lake Reba was not a water of the state. This letter was not accompanied or supported by any wetland delineation or technical analysis. The 1987 was Ecology's sole basis for deciding that Lake Reba was not a water of the state in the Port's 2003 Permit. Second, Eric Stockdale testified that Ecology has a standard process for determining whether a wetland is a water of the state, and that such a process has not bee applied to Lake Reba. The Board is cognizant of the need to give deference to Ecology's expertise in technical or scientific matters

such as making wetland determinations. As to Lake Reba, however, Ecology's conclusion in the Port's permit lacks the technical or scientific analysis that is the foundation of deference. Based on Mr. Stockdale's testimony, it is clear the department has failed to engage in meaningful investigation of the facts surrounding proper characterization of the Lake Reba facility. The permit should be remanded to Ecology for further review and appropriate permit modifications based upon professional wetland analysis of the Lake Reba site. In the interim, until a proper determination can be made of the status of Lake Reba, discharge monitoring should be added at the outfall from Lake Reba to Miller Creek. If Lake Reba is not ultimately considered a water of the state, the facility is undeniably discharging into Miller Creek, an undisputed water of the state. Under its existing analysis of Lake Reba, Ecology has no basis for failing to require monitoring of its discharges into Miller Creek[3] and development of appropriate BMPs and/or effluent standards for such discharges.

SAMPLING

34.

The Port has challenged the 2003 Permit conditions relating to frequency of sampling and sampling locations. (Legal Issues 2 and 3). The Permit requires sampling thirteen stormwater "outfalls" each month. (Ex. 1, pp. 36-38). This monthly monitoring constitutes an increase over the sampling required by the

1998 Permit. The Port contends the increased sampling will be an unwarranted expense without meaningful benefits. Ecology permit writer, Ed Abbasi, testified the monthly sampling is appropriate for monitoring compliance at the airport facility. If the Port can make a proper showing of ongoing compliance, reduced sampling frequency is available under the Permit terms. (Ex. 1, pp. 37, 39). According to Mr. Abbasi, the data submitted for 2003 does not contain the information needed to qualify for reduced sampling frequency. This may be a consequence of the Port failing to provide adequate information in its permit application. As the administering agency, Ecology is charged with the responsibility to establish a sampling protocol that will provide the information necessary for evaluating permit compliance, monitoring water quality exceedances, and analyzing the performance of BMPs. Ecology has done so in this case and the Port has not made a case under the law for overturning Ecology's decision.

35.

The Port has also objected to the locations for testing identified in the Permit. The Permit requires testing at all "outfalls" listed in Part II, Condition S1. (Ex. 1, p. 36). The Port claims certain outfalls contain stormwater that is commingled with non-airport sources and that it is impossible or impracticable to collect samples before the airport stormwater mixes with outside sources.

(Tobiason Testimony at ¶¶ 43-44). The Port further contends several of the outfalls are located significantly upgradient from the receiving waters and sampling at those locations will not generate information about the actual discharge to receiving waters. The Port's arguments are not persuasive. The listed "outfalls" are primarily the same outfalls tested under the 1998 Permit. Three outfalls discharging to the Northwest Ponds are added. (SDS5, SDS6, SDS7). Given the Northwest Ponds' status as waters of the state, sampling at the point of discharge to the Ponds is appropriate. Sampling close to the Port's outfall will provide more accurate information about the Port's impact on receiving waters and BMP performance than sampling after outside sources have influenced the results. The sampling goal enunciated in the Permit is to collect samples "immediately after applicable BMP(s), but prior to mixing with any other flow."[4] (Ex. 1, p. 36). This standard is appropriate, and any unusual problems can be addressed under the Permit language allowing a written explanation if the permittee in unable to sample according to the criteria in a given instance.

36.

The Port has also argued certain outfalls should be excluded from the sampling and monitoring requirements because the stormwater from Outfalls SDS1, SDS2, SDS6 and SDN1 are not associated with industrial activity. (Testimony of Scott Tobiason, ¶¶52, 53). The Port's application for the 2003

Permit (EPA Form 2F) identifies SDS 2 and SDS6 as being consolidated with other outfalls at the Northwest Ponds. Outfall SDN1 is listed as a consolidated outfall in the Lake Reba outlet to Miller Creek. Outfall Information for SDS1 is also provided in the application. While the cover letter for the application (Ex 11) indicates the Port's desire to consolidate monitoring locations, this suggestion was not adopted by Ecology. The Port has provided insufficient evidence of the actual activities occurring in the "non industrial" outfall drainage areas for the Board to determine the conditions requiring monitoring are unlawful. Mr. Abbasi testified he knowingly made the final call on sampling based on the information (or lack thereof) provided by the Port. Based on the record before Ecology and before this Board, the Port has not met its burden in proving discharges from the identified outfalls should be excluded from sampling requirements under the permit.

37.

The Port has reached a stipulation with Ecology relating to its objection to the permit sampling requirements for turbidity. The settlement changes the sampling parameter "Turbidity-NTU" to "TSS-mg/L" and changes the sample type from "grab" to "flow weighted composite" for Table 1 and Table 2 of Part II, Condition S1.A. ACC/CASE opposes removal of the turbidity parameter. The goal of any stormwater testing parameter should be to provide meaningful data

for evaluating the performance of pollution control measures and the occurrence of water quality violations. To the extent the change in testing achieves this goal, no basis for overturning the modification is present. The issue, however, was not a part of the hearing. The modification will take place through normal processes and ACC/CASE will have the opportunity at that time to make any detailed challenge to the scientific validity of the substitution.

38.

ACC/CASE have argued the monitoring provisions in Part II of the Permit fail to meet the legal requirement of 33 U.S.C. §1318(a) because the monitoring will not be sufficient to determine whether a violation of permit discharge standards has occurred:

> (A) the Administrator shall require the owner or operator of any point source to (i) establish and maintain such records, (ii) make such report, (iii) install, use, and maintain such monitoring equipment or methods (including where appropriate, biological monitoring methods), (iv) sample such effluents (in accordance with such methods, at such locations, at such intervals, and in such manner as the Administrator shall prescribe), and (v) provide such

other information as he may reasonably require…

33 U.S.C. §1318(a). ACC/CASE contend the monitoring provisions in Part II of the Permit will not allow accurate determination of whether Port discharges are causing or contributing to exceedances of water quality criteria for copper and zinc. The PCHB decision on §401 Certification for the Third Runway project included several criteria relevant to determining a copper or zinc violation:

> Any analysis of whether there is an exceedance of the zinc and copper standards in WAC 173-201A-040 requires: (1) hardness data measured in the receiving water, (2) sampling over a set period of time, (3) the sampling to be conducted in receiving waters (waters of the state), not upstream of those receiving waters, and (4) the measurement of the dissolved fraction of metals.

Airport Communities Coalition, PCHB No. 01-160 at 27. This information was considered necessary to evaluate compliance with the water quality standards contained in WAC 173-201A030 and –040. These standards relate to monitoring metals concentrations in receiving waters. The sampling criteria in Part II, Condition S1 relate to discharge monitoring. The receiving water monitoring contemplated by the Board's §401 decision is addressed by the Comprehensive Receiving Water and Stormwater Runoff Study in Part II, Condition S6.

COMPREHENSIVE RECEIVING WATER AND STORMWATER RUNOFF STUDY

39.

Part II of the 2003 Permit requires the Port to conduct a comprehensive study of the receiving water and the stormwater runoff to assess the impact of stormwater discharges from the Permittee's properties to Miller Creek, Des Moines Creek, Gilliam Creek, Walker Creek, and Northwest Ponds by analyzing the upstream and downstream receiving water. (Ex. 1, p.53) (Condition S6). ACC/CASE and PSA have objected to the study omitting sampling of BOD, COD or DO. Ed Abbasi testified at the hearing that he thinks it is appropriate to test for BOD and COD. A reasonable corollary would include DO testing in the receiving waters. Necessary work to establish a correlation between the BOD and COD parameters should be conducted if BOD is going to continue being used as an indicator for COD. The required study should be modified to be consistent with Ecology's position on BOD and COD at the hearing. Measuring DO is also appropriate. Addition of the BOD, COD and DO parameters should address ACC/CASE's objection that the study does not evaluate the impact of deicing and anti-icing operations.

40.

ACC/CASE have raised a number of other objections to the comprehensive receiving water study provisions. ACC/CASE asserts the study does not require evaluation of the effluent coming from SDS 3. SDS3 is the outfall draining

stormwater from the main runway area. As such, it is potentially contaminated with a number of pollutants and should be included in a complete evaluation stormwater runoff. ACC/CASE also contend the testing protocol varies from the one hour average contained in WAC 173-201A-040. This sample collection variation could render the data less helpful in establishing compliance with water quality standards. The study also fails to require grab samples within the first thirty minutes of a storm event. While it can be difficult to obtain such samples, the evidence indicated the first flush of pollutants often has the highest concentration of toxic substances. ACC/CASE also assert the forty-eight months the Port is given to complete the project is too long.

41.

The goal of the comprehensive receiving water and stormwater runoff study is to obtain meaningful information that will assist the Port, Ecology, and the public in determining how Port operations are impacting nearby water bodies and to provide the date necessary to fashion effective BMPs. To achieve those goals the study must be designed to generate the type of data needed to measure compliance with water quality standards. The Comprehensive Receiving Water and Stormwater Study Condition should be clarified to ensure effluent from SDS3 is included in testing, to incorporate one hour average tests consistent with WAC 173-201A-040, as needed, and to require grab samples during the first thirty

minutes of a storm event, as possible, for some or all of the testing events. In revising the Condition S6, Ecology should also evaluate whether the study can be completed in less than four years. Given the long history of unmonitored potentially toxic discharges into area waters, all possible speed should be used in developing this information so BMPs can be identified and implemented at the earliest possible time. In addition, Ecology should consider whether discharges from the outfall from the Northwest Ponds to Des Moines Creek should be explicitly included in the study to provide a more comprehensive picture of water quality problems, pollutant sources, and BMP performance.

42.

ACC/CASE have questioned whether the permit fails to comply with the PCHB's §401 Order, Condition 2, which required sampling stormwater above and below stormwater outfalls and monitoring the hardness of receiving waters. The §401 decision was directed to potential pollution generated by construction and operation of the third runway at Seattle Tacoma International Airport. When the construction is completed, certain outfalls will be used to discharge stormwater to area surface waters. At this point in time, the potential for copper and/or zinc exceedances appear to be related to the Des Moines Creek receiving water.

The Comprehensive Receiving Water and Stormwater Runoff Study

requires both monitoring outfalls into Des Moines Creek and monitoring hardness in the receiving water. It would be premature to find a violation of the §401 monitoring condition before the third runway has even been constructed. Once construction is complete, ongoing monitoring requirements of the Permit and testing protocols set forth in the Comprehensive Receiving Water and Stormwater Runoff Study appear adequate to comply with the Board's §401 testing requirement.

TOXICITY TESTING

43.

Part I and Part II of the 2003 Permit both contain provisions relating to toxicity testing. Acute toxicity testing for IWTP effluent is addressed in Part I, Condition S3 (Ex. 1, p. 17) and chronic toxicity testing is contained in Part I, Condition S4. (Ex. 1, p. 21). The Port has questioned whether the requirements in the NPDES Permit for acute and chronic toxicity testing of industrial wastewater are lawful and appropriate, specifically raising issues with regard to sublethal toxicity testing. ACC/CASE and PSA have challenged the acute and chronic toxicity testing provisions in both Part I and Part II.

44.

The acute toxicity testing required by Part I, Condition S3 requires testing the final effluent from the IWTP only when the BOD concentration is at, or below,

250 mg/L to simulate the post AKART effluent quality. (Ex. 1, p. 17). ACC/CASE contend this testing in meaningless in the absence of a requirement to test during de-icing operations. Since the 250 mg/L or less standard could allow testing when no BOD is present, it would not ensure evaluation during de-icing operations. The evidence showed certain additives in the anti-icing and de-icing products are potentially toxic. The effects of such substances would not be evaluated adequately if the testing does not occur when de-icing chemicals are present. A limitation to concentrations near 250 mg/L, as a surrogate for post-AKART effluent, may not be an invalid concept, if de-icing chemicals are present. To comply with the requirement of WAC 173-201A-040, the acute toxicity testing portions of the Permit should be remanded to Ecology and the testing program modified to assure a meaningful portion of the testing will occur when de-icing agents and their toxic constituents are present.

45.

The chronic toxicity testing requirement for the IWTP is contained in Part I, Condition S4. (Ex. 1, p.21). Like the acute testing requirement, the chronic toxicity testing is to be conducted on the IWTP effluent when it is at or below, 250 mg/L BOD concentration. The 250 mg/L concentration requirement presents a similar problem to the 250 mg/L limit for acute toxicity testing. A meaningful portion of the tested effluent needs to be representative of the conditions

occurring when de-icing and anti-icing chemicals are present. The chronic toxicity testing condition in Part I should be remanded to Ecology for revision to incorporate de-icing events as a necessary part of the testing plan.

46.

Chronic toxicity testing for the SDS is addressed in Part II, Condition S8. (Ex. 1, p. 60). The experts for Ecology and the Port were both very knowledgeable in the field of chronic toxicity testing. Agreement between the scientists was reached on several points, which were unrebutted by ACC/CASE or PSA. Based upon the scientific evidence, the permit provisions for chronic toxicity testing in Part II should be remanded to Ecology for incorporation of clarifications including: (1) instream testing locations, (2) more flexibility in the dates for taking samples, (3) identification of the version of the E-test being required, and (4) removing reference to using the results to establish compliance with whole effluent toxicity standards. The Port did not meet the burden of showing the test results should not be used for a possible toxicity identification/reduction evaluation, if it was indicated. WAC 173-205-100. Ecology's position on that issue is upheld and should be clarified in the permit language on remand.

47.

The acute toxicity testing provisions in Part II, Condition S7, were

challenged by ACC/CASE on the basis the testing did not require effluent from outfall SDS3 (the main runway outfall) during a deicing event. The testimony indicated the requirement to test stormwater discharges to the Northwest Ponds would include the SDS3 outfall. The sampling also requires at least one collection during deicing and anti-icing operations. This protocol should generate meaningful toxicity data and no modification appears necessary.

MIXING ZONES

48.

ACC/CASE contend Ecology failed to comply with applicable legal requirements in authorizing a mixing zone for IWTP discharges in Part I, Condition S1C. of the 2003 Permit. (Ex. 1, p. 13). Authorization of a mixing zone is dependent on implementation of AKART: "A discharger shall be required to fully apply AKART prior to being authorized a mixing zone." WAC 173-201A-100(2). This permit allows a mixing zone even though AKART has not been fully implemented. The permit should be clarified to make the mixing zone effective only after AKART for the IWTP has been implemented.

MARINE SEDIMENT

The 2003 Permit addresses marine sediment in Part I, Condition S12. (Ex. 1, p. 34). The Port is required to engage in an approved plan for sampling and analyzing marine sediment under the supervision of Ecology's Sediment

Management Unit. ACC/CASE object to Condition S12.C. because it allows the Port to comply with the provision by resubmitting a prior report. Ecology has retained the right to review and approve, or disapprove, of the report. If the analysis is not indicative of current conditions or is based on outdated methods, Ecology can require additional work. The condition does not fail to comply with the legal requirement to assure compliance with sediment quality standards simply because it allows for the possibility of submitting previous data.

INCOMPLETE PERMIT APPLICATION

The Port's application for the 2003 Permit has been challenged by ACC/CASE as incomplete. The application (Ex. 11) does exhibit a number of areas without requested information. While Ecology might have been warranted in requiring supplementation of the application, the permit writer indicated he interpreted lack of information under a worst-case analysis. Given this treatment of any omitted information, the Permit does not fail to impose an otherwise applicable requirement based on any omission. As a result, since no failure to impose a required limit would have resulted from any lack of information, ACC/CASE's requested invalidation of the entire permit would be inappropriate.

INFORMAL MODIFICATION

49.

ACC/CASE argue the permit provisions allowing Ecology to modify

specific requirements of the permit are unlawful. ACC/CASE point to several requirements followed by the phrase "unless otherwise…approved in writing by the Department of Ecology," including Condition S2B (Ex. 1, p. 15), Condition S.1.F (Ex. 1, p. 41), Condition S.5.A.4. (Ex. 1, p.47) and Condition S.1.C. (Ex. 1, p. 68). Federal and state regulations contain requirements for major and minor modifications of NPDES permits. Changes to NPDES permits, except those characterized as "minor modifications" under 40 C.F.R §122.63, must follow the procedures set forth in 40 C.F.R. §122.62 and 124.5. To the extent it relates to items other than minor modifications, Ecology's attempt to reserve the right to modify a permit without following the applicable public process is a violation of state and federal regulations. This Board has previously rejected this type of reservation as contrary to law in *Puget Soundkeepers Alliance et al. v. Ecology*, PCHB No. 02-162 (Order Granting Partial Summary Judgment, June 6, 2003) at ¶¶XXXV-XXXVIII. The permit language enunciating Ecology's reservation of modification authority should be changed to clarify that any permit modifications must be conducted pursuant to the applicable process under state and federal law.

WITHDRAWN ISSUES

50.

Prior to the hearing, ACC/CASE withdrew their arguments based on (1) Ecology's authorizing use of Lake Reba as a mixing zone, (2) Ecology's failure to

implement the Board's limitation on use of a WER study, and (3) Violation of the anti-backsliding policy in connection with the pH limit at the IWTP. Those issues were not presented at hearing or in briefing and are not addressed in the decision. No legal argument was submitted in support of ACC/CASE's issue asserting the permit was illegal because it failed to include a schedule for modifications to the Stormwater Pollution Prevention Plan (SWPPP). In the absence of authority or evidence on the issue, the appellants' burden is unmet and the issue is not addressed further in this decision.

ECOLOGY – PORT STIPULATION

51.

Ecology and the Port have entered into a written stipulation covering Issues 1, 5, 11, 13, and 14 of the Pre-Hearing Order. These issues were raised by the Port's appeal of the Permit. ACC/CASE has objected to the substance of a number of the stipulations. The Board did not hear evidence on matters covered by the stipulation because the issues were not appealed separately by ACC/CASE. To the extent any changes to the Permit allow less stringent requirements, ACC/CASE may have rights to be heard in an ensuing Permit modification process. The Board does not have adequate evidence or argument to substantively rule on each aspect of the stipulation and the opinion does not address them

Any Conclusion of Law deemed to be a Finding of Fact is hereby adopted as such.

Based on the foregoing Findings of Fact and Conclusions of Law, the Board enters the following:

ORDER

The 2003 NPDES Permit for Seattle-Tacoma International Airport is hereby remanded to Ecology for revision as indicated by this decision.

1. The AKART determination for the IWTP is improper and should be performed pursuant to the controlling legal standard.

2. The Compliance Schedule for IWTP Water Quality Compliance extends beyond the ten year maximum and must be modified. Immediate requirements consistent with this opinion should be incorporated into the Permit.

3. The Comprehensive Receiving Water and Stormwater Runoff Study in Part II should be revised to (a) include SDS3, (b) incorporate one hour average testing protocol, (c) require grab samples within the first half hour of storm events, (d) include testing for BOD, COD, and DO, and (e) evaluate timing for completion of the study and inclusion of the outlet from the Northwest Ponds to Des Moines Creek.

4. The acute toxicity testing requirements in Part I and Part II should be revised to assure a meaningful part of the testing will occur during the presence of anti-icing and deicing chemicals.

5. Chronic toxicity testing requirements in Part I and Part II should be modified to: (a) incorporate instream testing locations, (2) provide more flexibility in sampling dates, (3) specifically identify the E-test to be used, (4) remove references to use of the data for compliance purposes.

6. The determination of a mixing zone for the IWTP outfall 001 shall be based on mixing zone requirements in light of the new AKART determination. If a mixing zone is granted, it shall be effective only after AKART has been fully implemented.

7. The informal modification process in the Permit should be changed to comply with applicable legal modification processes.

All other aspects of the Permit are affirmed.

Done this 18th day of October 2004.

POLLUTION CONTROL HEARINGS BOARD

WILLIAM H. LYNCH, CHAIR

BILL CLARKE, MEMBER

Phyllis K. Macleod
Administrative Appeals Judge

---

[1] ACC/CASE have raised the issue of whether the permit fails to implement Condition 1 of the PCHB's §401 Order requiring enhanced treatment BMPs for metals. To the extent needed to avoid exceedances of water quality standards, the NPDES permit does require enhanced BMPs. Detailed work needs to be completed, and is required by the Permit, before the proper location and type of BMPs for each pollutant can be identified. Since this work is mandated by the Permit, it does not fail to implement the requirement for enhanced treatment BMPs. In addition, the §401 decision was based on future construction at the airport which may raise the need for enhanced BMPs. The NPDES permit contemplates this possibility and BMPs will be required, without compliance schedules, for new outfalls.

[2] This case presents an unusual situation in that typically AKART is implemented before water quality limits are imposed. In this case, AKART has not been achieved within the ten year period applicable to compliance with water quality standards. This fact does not negate the prohibition on a schedule for water quality compliance extending beyond ten years.

[3] The Permit does require some monitoring of the Lake Reba outfall to Miller Creek as part of the Comprehensive Receiving Water Study, (Part II, Condition S6). The monitoring frequency required by Condition S1 may be more frequent than the receiving water study protocol.

[4] The Stipulation entered into by the Port and Ecology modifies the sample collection provision by removing the language "but prior to mixing with any other flow." This modification appears to be consistent with the sampling goal of providing information specific to the Port's discharge and BMP performance.