NO. 48267-3

COURT OF APPEALS, DIVISION II
OF THE STATE OF WASHINGTON

PUGET SOUNDKEEPER ALLIANCE,

Petitioner,

v.

STATE OF WASHINGTON, POLLUTION CONTROL HEARINGS BOARD, and DEPARTMENT OF ECOLOGY,

Respondents.

RESPONDENT'S BRIEF IN RESPONSE TO PETITIONER'S OPENING BRIEF

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I. INTRODUCTION

State and federal water quality laws require that a facility have a permit in order to discharge wastewater containing pollutants from that facility into state waters. These permits include limits on the amount of the specific pollutants that can be discharged. Permittees are required to measure the level of pollutants in their discharge to ensure they comply with the limits in their permit.

After a four-day hearing on the merits, the Pollution Control Hearings Board (Board) upheld in part the permit issued by the Department of Ecology (Ecology) to Seattle Iron and Metals (SIM) governing SIM's discharges. Puget Soundkeeper Alliance (PSA) appeals two provisions on which the Board agreed with Ecology. The first issue involves the highly technical question of how the permit's numeric discharge limits for pollutants in SIM's untreated stormwater runoff were derived. The second issue involves Ecology's obligation, found in the Washington Administrative Code and federal law, to use the test procedure specified in federal regulations to test for the presence of polychlorinated biphenyls (PCBs) in SIM's discharges.

Ecology properly derived SIM's discharge limits based on state water quality standards, and the limits meet all requirements of state and federal law. Ecology also properly required the use of EPA's only

approved test procedure for PCB discharges. This Court should affirm the Board's decision.

II. RESTATEMENT OF THE ISSUES ON APPEAL

1. Did the Board properly affirm the numeric limits for untreated stormwater discharges from SIM, where Ecology had made the technical determination that it lacked sufficient data to calculate accurate site-specific numeric effluent limits, and instead used numeric water quality based benchmarks from the Industrial Stormwater General Permit as limits until sufficient data is collected?

2. Did the Board properly determine that it lacked authority to compel Ecology to petition EPA to use an alternate method in SIM's permit to test for PCBs, where the test method Ecology used is mandated by state and federal law for compliance testing?

III. RESTATEMENT OF THE CASE

SIM is an auto shredding and metal recycling operation located on multiple adjacent properties along the Lower Duwamish River. AR 228.[1] SIM extracts and sells recoverable metals from auto shredder residue. *Id.*

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[1] Citations to "AR" are to the Bates numbered page of the Administrative Record, which is designated in Clerk's Papers at Sub #21. "AR" is followed by the specific page number cited. Citations to "RP" are to transcripts of the Record of the Proceedings before the Board, also included in Clerk's Papers at Sub #21, and cite to the transcript page and line number. The facts in this Restatement come from the Board's unchallenged findings in its final decision, unless otherwise cited.

The industrial areas of the SIM's properties produce a mix of wastewater from its shredding and extraction process and some stormwater (in combination referred to as "process water"), which together are collected and treated before being discharged to the Lower Duwamish River. AR 3313-15. Other areas on SIM's property, including rooftops and parking lots, produce only stormwater runoff, which, at the time the Permit was issued, did not receive treatment, but joined the treated wastewater at the point of discharge to the river. *Id.*

The Lower Duwamish River has been the site of major industrial activity for more than 100 years, resulting in extensive contamination of the waterway. AR 229. Elevated levels of hazardous contaminants can be found in river sediments, as well as in fish and shellfish tissue. *Id.* Contaminants of concern in the Lower Duwamish include polychlorinated biphenyls, PCBs. AR 229-30.

PCBs are manmade chemicals used in a wide variety of products. AR 230. Although banned above certain concentrations in the late 1970s, PCBs persist in manufactured products and the environment and are toxic. RP 747:20-748:6. PCBs also accumulate in fish tissue, and human exposure to PCBs by way of fish consumption is a public health concern. AR 230. The state Department of Health has issued an advisory warning

to the public not to eat resident fish, shellfish or crab from the Duwamish River. *Id.*

The U.S. Environmental Protection Agency (EPA) and Ecology coordinate a federal-state strategy to clean up the Lower Duwamish. AR 231. EPA is the lead agency for the in-water cleanup. *Id.* Ecology is the lead agency for controlling the sources of contamination. AR 232.

There are numerous historic sources of PCBs along the Lower Duwamish, including the SIM property. *Id.* SIM is recognized as one of the potential sources of PCB contaminants in the Lower Duwamish. However, PCBs were not listed as exceeding water quality standards in the stretch of the Lower Duwamish near SIM at the time the Permit was issued.[2] *Id.* at 232; RP 608:15-21.

SIM's Permit History

Ecology is the state water pollution control agency for all purposes of the federal Clean Water Act. RCW 90.48.260(1). As part of its regulatory responsibilities, Ecology administers the National Pollutant Discharge Elimination System (NPDES) permit program. RCW 90.48.260(1)(a). NPDES permits allow for the discharge of certain pollutants to navigable waters, provided the discharges are compliant with

[2] "Listing" refers to the presence of a specific pollutant either in the water column or in sediments for a particular stretch of a river. The list, also called the "303(d) list" is prepared by Ecology under the federal Clean Water Act to identify water bodies that do not meet water quality standards. AR 229; 33 U.S.C. § 1313(d).

the permit terms and consistent with state and federal law. 33 U.S.C. § 1342(a)(1)–(2); WAC 173-220-010; WAC 173-220-020.

In 2007, Ecology first issued an individual NPDES permit to SIM. AR 233. The 2007 permit contained limits on the pollutants found in SIM's treated process water. *Id.* The 2007 permit did not regulate SIM's untreated stormwater discharge from the roof and parking lot. *Id.* When Ecology reissued SIM's permit in 2013, coverage of the untreated stormwater was included for the first time. AR 234.

Laboratory Test Methods

Monitoring provisions are included in facility NPDES permits. AR 3262-3264. Monitoring is used to determine a facility's compliance with the effluent limits applied in its permit. EPA specifies the laboratory methods used to monitor pollutants in facility discharges. 40 C.F.R. § 122.44(i)(l)(iv) (2015); 40 C.F.R. § 136.1(a) (2015). EPA approves test methods by way of formal rulemaking, which subjects any new method to public review and comment. *See e.g.* Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures, 75 Fed. Reg. 58,024 (Sept. 23, 2010) (excerpt attached as Appendix A). Ecology regulations require the use of EPA approved test methods. WAC 173-201A-260(3)(h).

EPA approved Method 608 as the laboratory method specified for testing for the presence of PCB. 40 C.F.R. § 136.3 Table IC Nos. 88-94 (2015). Other testing methods for the presence of PCBs exist, and the regulations include procedures for an agency, or "any person" to petition EPA to be able to use an alternate method. AR 260; 40 C.F.R. § 136.4 (2015).

Testing methods vary in their ability to detect and measure the pollutant they are designed to test for. As the Board found, the three methods for PCB detection discussed in regard to the SIM permit varied in their ability to detect PCBs in SIM's discharge. AR 260. Method 8082A and Method 1668C were more sensitive tests, that is, they were able to detect PCBs in smaller amounts, than Method 608. However, neither Method 8082A nor Method 1668C are approved by EPA for permit compliance purposes. *Id.*

PSA appealed SIM's 2013 permit, NPDES Permit No.WA0031968 (Permit), to the Board on several grounds. The Board agreed with PSA on several issues, but agreed with Ecology on the two issues under review here. First, the Board concluded that the pollutant limits for copper and zinc in the Permit for the untreated stormwater discharge were consistent with applicable law. AR 264. Second, the Board concluded that it lacked the authority to force Ecology to petition EPA for the use of a

PCB laboratory detection method other than the method required by federal regulations. AR 274.

IV. STANDARD OF REVIEW

Washington's Administrative Procedure Act (APA), RCW 34.05, governs the review of the Board's decision. *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wn.2d 568, 587, 90 P.3d 659 (2004). The APA provides for direct review by this Court of final decisions of environmental boards when specific criteria are met, as they have been here. RCW 34.05.518(3). The burden of demonstrating the invalidity of the agency's action is on the party asserting invalidity, in this case PSA. RCW 34.05.570(1)(a). The Court will grant relief from an administrative order when the order is outside the agency's statutory authority or jurisdiction, is erroneous under the law, is not supported by substantial evidence, is inconsistent with a rule of the agency, or is arbitrary or capricious. RCW 34.05.570(3). "A board's decision is arbitrary or capricious if it is willful and unreasoning action in disregard of facts and circumstances." *Buechel v. Dep't of Ecology*, 125 Wn. 2d 196, 202, 884 P.2d 910 (1994) (internal quotation omitted).

Deference to an agency's interpretation of its own regulations is appropriate. *Port of Seattle*, 151 Wn.2d at 593. Ecology is the state agency designated by the legislature to be the water pollution control

agency with regard to the Clean Water Act. *Id.* at 594. Because of this, great weight should be given to Ecology's interpretation of the laws that it administers. *Id.* The legislature granted Ecology the authority to establish and administer a comprehensive waste discharge permit program. RCW 90.48.260(1)(a). Rules developed under such a delegation of authority are presumed valid. *Weyerhaeuser Co. v. Dep't of Ecology*, 86 Wn.2d 310, 314, 545 P.2d 5 (1976).

The Board was appointed by the Legislature to adjudicate appeals arising out of Ecology actions. *Port of Seattle,* 151 Wn.2d at 597. Board members are qualified by experience or training in matters pertaining to the environment. *Id.* at 592. Where both Ecology and the Board agree on a question, a reviewing court should be "loath to override the judgment of both agencies, whose combined expertise merits substantial deference." *Id.* at 600.

V. ARGUMENT

PSA broadly asserts that the Permit allows violations of state water quality standards. PSA insists that Ecology failed to give effect to state policy calling for the protection of the quality of state waters, and to give full effect to its own regulations. But when doing so, PSA misinterperts technical aspects of the Permit, and reads out of the regulations plain statutory directives.

The federal Water Pollution Control Act ("Clean Water Act" or "CWA"), 33 U.S.C. §§ 1251–1387, is a "comprehensive water quality statute designed to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." *PUD No. 1 of Jefferson Cty. v. Dep't of Ecology*, 511 U.S. 700, 704, 114 S.Ct. 1900, 128 L.Ed.2d 716 (1994) (internal quotations omitted). The CWA prohibits the discharge of any pollutant to surface waters unless made pursuant to the terms of a NPDES permit. *American Paper Inst., Inc. v. U.S. Envtl. Prot. Agency*, 996 F.2d 346, 348–349 (1993). A NPDES permit must contain effluent limitations that reflect the pollution reduction achievable by a facility using technological controls. *Id.* at 349. In addition to these technology based limits, permits must also contain more stringent limitations when necessary for the facility's discharge to comply with state water quality standards.[3] These are termed water quality based limits or WQBELS. *Id.*

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[3] Water quality standards are set by each state, and must be approved by EPA before they become effective. 40 C.F.R. § 131.21(e) (2015). If a state fails to set standards, or if EPA considers the standards inadequate, EPA will promulgate standards for that state. 33 U.S.C. § 1313.

Water quality standards have three components, (1) designated beneficial uses for a body of water, (2) a set of criteria, or standards, specifying the maximum concentration of pollutants that may be present in the water without impairing its designated use, and (3) antidegredation provisions, which generally prohibit discharges that would degrade the quality of state waters. *American Paper,* 996 F.2d at 349; RCW 90.54.020(3)(b); WAC 173-201A-300. Water quality standards can be expressed as numeric limits for specific pollutants. *See* WAC 173-201A-240(3), Table 240(3). Alternatively, a water quality standard can be expressed as a "narrative" limit, which is descriptive rather than numeric. *American Paper*, 996 F.2d at 349.

The first type of effluent limitations, technology based effluent limits, are based on "how effectively technology can reduce the pollutant being discharged." *Natural Res. Def. Council v. U.S. Envtl. Prot. Agency*, 808 F.3d 556, 563 (2015). EPA may promulgate technology limits on an industry-wide basis. On a case-by-case basis, using their best professional judgment, a permit writer may require the application of one or more technologies at a facility to prevent the discharge of a pollutant. 40 C.F.R. § 125.3(c) (2015).

As the name suggests, the second type of effluent limitation, water quality based effluent limitations, are based on water quality standards set by a state. 33 U.S.C. § 1313; 40 C.F.R. § 122.44(d) (2015). WQBELs focus on the amount and kind of pollutants in the receiving water. *Natural Res. Def. Council*, 808 F.3d at 565. A NPDES permit must establish limits for each pollutant in a discharge that will lead to compliance with water quality standards. *Id.*

A. The Numeric Limits for SIM's Untreated Stormwater Discharges Are Numeric Water Quality Based Limits

PSA contends that the Permit effluent limits for the untreated stormwater discharge are not water quality based.[4] Pet Br. 40. This is

[4] Effluent limits for copper and zinc are found in Condition S1.B of the Permit, and they are two of the limits imposed on the untreated stormwater effluent. *See* AR 3260. PSA includes mercury in its brief when discussing derivation of the limits

incorrect. The limits for copper and zinc for the untreated stormwater discharge in Condition S1.B of the Permit are water quality based, and their use in SIM's permit is a reasonable exercise of Ecology's discretion in the highly technical determination of appropriate effluent limits for permits.

1. Water quality based limits are required for the SIM Permit

If a reasonable potential exists for any given pollutant in a discharge to exceed water quality standards, the permit must contain effluent limits for that pollutant. 40 C.F.R. § 122.44(d)(1)(iii) (2015). A permit writer must determine if water quality based limits are necessary in a permit by analyzing whether a facility's discharge will cause, have the reasonable potential to cause, or contribute to a violation of water quality standards. 40 C.F.R. § 122.44(d)(1)(ii) (2015). This analysis is referred to as a "reasonable potential analysis." RP 534:19-535:11. Ecology has adopted EPA's process for determining reasonable potential, and

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for the untreated stormwater, however there is no effluent limit for mercury in Condition S1.B. PSA's brief addresses only the validity of how the limits were derived, not the absence of mercury from the list found in Condition S1.B. To the extent PSA may be attempting to insert an argument that there is a reasonable potential for mercury in the untreated stormwater discharge to violate water quality standards and therefore there should be a numeric limit for mercury in the permit, that issue was not raised in PSA's petition and is not before this Court. The Board made no findings nor drew any conclusions regarding mercury in the untreated stormwater discharge, other than one statement that PSA's expert testified as to his opinion regarding mercury in that discharge. AR 249.

Ecology's Permit Writers Manual contains detailed instructions for conducting a reasonable potential analysis. AR 3416, 3422-23 (for protection of aquatic life),[5] AR 3487-95 (for protection of human health).

According to Ecology's Permit Writers Manual, in order to conduct a mathematical reasonable potential analysis or to calculate a permit limit, an estimate of variability over time of the amount of each pollutant in a discharge is required. AR 3412. The estimator most commonly used is the coefficient of variation (CV). *Id.* A permit writer needs data to calculate the CV for a specific effluent. AR 3413. Ecology's permit writer testified that 10 to 12 samples were needed in order for him to calculate a CV with confidence. RP 536:14-537:6. Without sufficient samples, he testified, "you are going to have some numbers. But how reliable those numbers are, I won't use it for enforcement or for limit [sic]." [6] RP 537:4-6.

For SIM's treated process water from its industrial activity, Ecology's permit writer utilized SIM's monitoring data to calculate effluent limits. RP 537:22-538:11. When it came to the untreated stormwater discharge from the roof and parking lot, however, the permit

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[5] RP 3417-21 does not appear to be pages of the Permit Writers Manual, but a different document that was inserted and paginated in error.

[6] In contrast, PSA's expert testified that effluent data is not needed to calculate water quality based permit limits. RP 352:12-353:2. His opinion, however, does not take into account that the CV, which is derived from site specific effluent data, is a necessary factor in the required calculations. *See* formulas at AR 3416 and 3422.

writer had only two data points from samples of that discharge. RP 538:24-539:8. He considered two data points insufficient for running the statistical calculations needed to perform a calculated reasonable potential analysis. Two data points were also insufficient for the calculation of permit limits, because two data points were insufficient to calculate the coefficient of variance, CV. *Id.*

The permit writer had information that dust from the operation may have settled on SIM's roof and parking lot. RP 540:3-15; 623:23-625:7. Data received from the City of Seattle and EPA also indicated that the untreated stormwater may contain pollutants. RP 540:3-15. Based on this information, he determined that SIM's untreated stormwater discharge required water quality based limits for certain pollutants. RP 543:24-544:1. This determination was essentially a reasonable potential analysis. RP 666:10-20. The positive finding of a reasonable potential is the reason that there are effluent limits in the Permit for the untreated stormwater. RP 666:22. No limits are needed where there is no potential to exceed water quality standards. 40 C.F.R. § 122.44(d) (2015).

Although water quality based limits were required for the Permit, in his professional opinion the permit writer had insufficient data to properly calculate those limits. Instead, using his best professional judgment, he imported numeric benchmark limits from the Industrial

Stormwater General Permit (Industrial Permit), which are applicable across a range of industrial facility types discharging to waters across the state, into SIM's Permit for the untreated stormwater discharge. RP 543:24-544:8. The benchmark limits are water quality based.

2. The numeric benchmark limits in the Industrial Permit are water quality based

Among the different NDPES permits issued by Ecology is the Industrial Permit. The Industrial Permit is issued to regulate stormwater discharges to surface waters from approximately 1200 industrial facilities statewide. *Copper Dev. Ass'n, Inc., v. Dep't of Ecology*, PCHB Nos. 09-136 through 09-141 at 3, (Findings of Fact, Conclusions of Law and Order, Apr. 25, 2011) (Industrial Permit Decision) (Attached as Appendix B). The Industrial Permit allows Ecology to regulate multiple industries through a single permit. *Id.* The Industrial Permit is implemented at a number of facilities in the Lower Duwamish. RP 540:23-25.

The Industrial Permit contains numeric "benchmark" values for copper and zinc. Industrial Permit Decision at 9-10. The benchmark values are used in the Industrial Permit as indicator values, which trigger adaptive management, a process by which a facility applies technologies to achieve the required compliance with water quality standards over time. *Id.* at 48-49. A first-time exceedance of a benchmark is not a permit

violation, but does trigger actions to reduce the amount of a pollutant in the facility's discharge. *Id.* at 9-10. The intensity of the actions required increases if there are subsequent exceedances of a benchmark. RP 669:12-670:8.

When the 2009 Industrial Permit was issued, Ecology's use of the benchmarks was challenged. The Board found that Ecology used a well-established statistical method, the Monte Carlo simulation, to develop pollutant discharge levels that would not exceed water quality standards for the likely pollutants found in industrial stormwater. Industrial Permit Decision at 18-19. The benchmarks in the Industrial Permit are numeric limits for pollutants that are protective of water quality in the majority of receiving water conditions. *Id.* at 20.

The numeric benchmarks in the Industrial Permit were derived based on compliance with state water quality standards, and therefore are water quality based. *Id.* at 18. Ecology considers the Industrial Permit benchmark limits to be protective of water quality in the vast majority of conditions. *Id.* at 20.

As Ecology's permit writer testified, he determined that importing the numeric benchmarks into the Permit as permit <u>limits</u> is protective of water quality for several reasons. First, rather than just triggering future adaptive management, the violation of a permit effluent limit subjects a

facility to immediate enforcement. RP 542:17-22. Additionally, the Industrial Permit was being implemented widely in the Lower Duwamish, the immediate area around SIM, where conditions are similar to what the SIM facility experiences. RP 544:9-11. And finally, EPA had used the same limits in its multi-sector general permit. RP 539:9-13. Because the benchmark limits are water quality based, they are consistent with the requirements of federal and state law and, as they are implemented in SIM's permit, are water quality based permit limits.

The Board properly concluded that the numeric effluent limits imposed on SIM's untreated stormwater discharge are consistent with applicable law. Substantial evidence in the form of the permit writer's testimony and the Board's Industrial Permit Decision supports the Board's conclusion. The Board's conclusion should be upheld by this Court.

3. The Board's decision does not create a compliance schedule for the untreated stormwater discharge

PSA errs in claiming that the Board considered the water quality based limits for the untreated stormwater discharge as "interim limits" as that phrase is used in the context of a permit compliance schedule. Pet'r's Br. 37-40. Compliance schedules provide a time period for a facility to come into compliance with discharge limits, and are permissible in NPDES permits. WAC 173-201A-510(4); WAC 173-220-140. When a

compliance schedule is incorporated into a permit, it must include dates for achievements and actions under a specified schedule, the so-called "interim requirements" to which PSA refers. WAC 173-220-140.

As PSA itself points out, neither the Permit nor the Fact Sheet discuss a compliance schedule for SIM regarding the untreated stormwater water quality based effluent limits. Pet'r's Br. 37. No delay in compliance with water quality limits is allowed in the SIM Permit.[7] In fact, the permit writer testified that the incorporated water quality based numeric limits were immediately enforceable and thus made the permit stronger. RP 542:6-22. Not surprisingly, the Board also made no reference to a compliance schedule related to the untreated stormwater water quality based effluent limits in its final decision. See generally AR 236-37. The only discussion in the Board's Order regarding a compliance schedule relates to the schedule for delivery of the engineering report. AR 238, AR 266-67.

The Board did refer to the limits for the untreated stormwater using the word interim. *See e.g.* AR 238 ("Ecology considers the effluent limits in the 2013 Permit for the untreated stormwater to be interim limits as those limits will be modified based on the engineering report . . .");

[7] For an example of what a permit compliance schedule does look like, see Condition S9, which is the compliance schedule for the engineering reports and maintenance manual. AR 3273. No such schedule for compliance with discharge limits exists in the Permit.

AR 250 ("Mr. Abbasi used the ISGP's benchmarks as interim numeric limits for Outfall 002."); AR 264 ("Ecology considers the limits interim in nature . . ."). But the reasonable reading of the Board's decision is that the Board meant the phrases "interim limits" and "interim in nature" as the word "interim" is generally used, rather than as a term of art related to permit compliance schedules. "Interim" is defined as "a time intervening," or "done, made or occurring for an interim or meantime."[8] Reading the Board's decision in this way makes sense of its conclusion that that water quality based limits will be derived from the monitoring data collected by SIM during the current Permit cycle for inclusion in the next iteration of SIM's permit. AR 264. The Board's decision does not create a compliance schedule.

4. The Permit contains water quality based limits for SIM's untreated stormwater

PSA is in error when it states that the effluent limits for SIM's untreated stormwater are technology, and not water quality based. Pet'r's Br. 27. As discussed above, the limits in the permit are water quality based. Therefore there is no need for Ecology to make a finding

[8] Webster's Third New International Dictionary 1179 (1971).

under WAC 173-220-130(2).[9] Pet'r's Br. 11, 34. The Board properly concluded that the numeric limits for SIM's untreated stormwater are consistent with applicable law. AR 264.

B. Federal and State Law Mandate the Use of Method 608 for Permit Compliance

The Permit requires monitoring for PCBs for both SIM's treated process water and untreated stormwater. "If EPA has approved a test procedure for analysis of a specific pollutant, the NPDES permittee must use an approved test procedure (or an approved alternate test procedure if specified by the permitting authority) for the specific pollutant when measuring the required waste constituent." Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures, 77 Fed. Reg. 29,758, 29,758 (May 18, 2012) (excerpts attached as Appendix C). State law mirrors this requirement. WAC 173-201A-260(3)(h). PSA interprets WAC 173-201A-260(3)(h) as presenting three choices for selecting a test method for permit compliance. Pet'r's Br. 45-46. It does not. The plain language of the state and federal regulations require Ecology to use test methods specified in 40 C.F.R. 136 for permit compliance purposes.

[9] A finding that "any discharge authorized by the permit will not violate applicable water quality standards" is only required when only technology based effluent limits are applied in a permit. WAC 173-220-130(2).

1. Method 608 is the PCB test method required for permit compliance testing

NPDES permits shall include requirements to monitor "according to sufficiently sensitive test procedures (i.e., methods) approved under 40 CFR Part 136. . . ." 40 C.F.R. § 122.44(i)(l)(iv) (2015). A method is "sufficiently sensitive" when it has the "lowest [method minimum level] of the analytical methods approved under 40 C.F.R. part 136. . . for the measured pollutant or pollutant parameter." 40 C.F.R. § 122.44(i)(l)(iv)(A)(2) (2015). Method 608 is the only method list for PCB analysis, so there is no other procedure with a lower method minimum level.

> The procedures prescribed herein shall, except as noted in . . . § 136.5, . . . shall be used to perform the measurements indicated whenever the waste constituent specified is required to be measured for . . ..

40 C.F.R. § 136.1 (2015).[10]

Washington's federally approved water quality standards also require the use of EPA approved test methods.

> The analytical testing methods for these numeric criteria must be in accordance with the "*Guidelines Establishing Test Procedures for the Analysis of Pollutants*" (*40 C.F.R. Part 136*) or superseding methods published. The department may also approve other methods following consultation with adjacent states and with the approval of the USEPA.

[10] 40 C.F.R. § 136.5 is the approval process for use of unlisted methods.

WAC 173-201A-260(3)(h). Method 1668C is not currently approved by EPA for testing compliance with permit effluent limits.

"EPA's regulations at 40 C.F.R. part 136 identify test procedures that must be used for the analysis of pollutants in all applications and report [sic] under the CWA NPDES program." 75 Fed. Reg. at 58,026 (App. A). "Regulated and regulatory entities use these approved methods for determining compliance with NPDES permits or other monitoring requirements." *Id.* Entities have a choice in deciding which approved method they will use where EPA has approved the use of more than one method for a particular pollutant. *Id.* Ecology follows the requirements of the federal regulations when assigning testing methods in permits. RP 647:25-648:8.

PSA argues that Method 1668C is "superseding" simply because it has been published, and some jurisdictions are reportedly using it.[11] Pet'r's Br. 46. However, EPA proposed to add Method 1668C to 40 C.F.R. 136 through formal rulemaking, 75 Fed. Reg. at 58,024 (App. A), and ultimately decided to defer adding Method 1668C while it analyzed the large number of comments received on the method. AR 3587 (77 Fed. Reg. at 29,763) (App. C). Method 1668C cannot be said to have

[11] While certain states may be using Method 1668C for regulatory purposes, there is no indication that they do so without first seeking approval to use Method 1668C as an "other method" under 40 C.F.R. § 136.4-5.

superseded Method 608 when EPA decided not to approve Method 1668C in response to comments it received when it first proposed approval.

At the same time, EPA also proposed, and then added, "new versions of already approved EPA methods." 75 Fed. Reg. 58,024 (App. A). New versions of methods already approved by EPA in 40 C.F.R. § 136 would be "superseding methods" under WAC 173-201A-260(3)(h). Entirely new methods like 1668C are not a superseding method, and would need to be added to 40 C.F.R. § 136 through rulemaking.

Ecology does have the option to consult with adjacent states and then apply to EPA to use a method other than Method 608 for measuring PCBs. 40 C.F.R. § 136.4 (2015). However, this option is permissive, not mandatory, under both state and federal regulation.[12]

The requirement under both federal and state law to use the test method mandated by EPA for the detection of PCBs cannot be read out of the regulations. The Board properly affirmed Ecology's inclusion of Method 608 as the test for PCBs in SIM's discharges. PSA would have this Court deny SIM's coverage under a permit that is compliant with state and federal law.

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[12] "The term 'may' in a statute generally confers discretion." *Freeman v. Freeman,* 169 Wn.2d 664, 671, 239 P.3d. 557 (2010).

2. Method 1668C is not yet demonstrated as reliable for permit compliance testing

EPA received comments critical of Method 1668C when it published its proposed changes. AR 3587 (77 Fed. Reg. at 29,763) (App. C). Commenters were critical of the inter-laboratory study relied on by EPA. *Id.* Comments were also received on the adverse effects of the method on compliance monitoring, and concerns about data reporting and costs. *Id.*

Ecology also had concerns regarding Method 1668C during the time the SIM permit was under development. RP 650:17-654:16. Ecology's Northwest Regional Office supervisor for industrial permit writing testified that the method was new, and across the state sampling procedures were not reliable. *Id.* Ecology also had concerns regarding the cost of the testing, and the availability of laboratories to conduct the testing. *Id.* Additionally, the supervisor described a colleague's experience with Method 1668C detecting PCBs in sample "blanks," which are unused empty bottles containing no test material. *Id.* This same issue, where laboratory and field "blanks" showed contamination, was identified as a problem by PSA's expert. RP 79:10-15.

The Board heard additional testimony on concerns about using the data derived from Method 1668C. RP 749:15-750:14. Under the broad

umbrella of PCB compounds, Method 1668C measures types of PCB compounds different (and in greater number) from those measured by Method 608. *Id.* The regulatory limits for PCBs, however, are set based on the compounds measured by Method 608. *Id.* For regulatory purposes, a compliance measurement must measure the same substances on which the regulatory limits are based, and no more, so that the result is not artificially high when compared to the limit. That would potentially be the case if Method 1668C is simply substituted into SIM's permit.

Ecology may and does use Method 1668C for purposes other than permit compliance monitoring. RP 649:16-650:16. As more experience is gained with the method, it may be used more widely for a variety of purposes. Should EPA modify 40 C.F.R. 136 to include Method 1668, the method would then be available as an option for PCB testing for permit compliance. But until that occurs, federal and state regulations require the use of Method 608 for permit compliance. While PSA may believe Method 1668C is superior to Method 608, there are valid technical reasons why EPA has not approved Method 1668C for compliance monitoring, and those same reasons support Ecology's decision not to exercise its discretion to ask EPA to approve Method 1668C at this time.

VI. CONCLUSION

The Board properly concluded that the water quality based benchmarks from the Industrial Permit were appropriately incorporated into the Permit to regulate SIM's untreated stormwater discharge. The Board also properly concluded that the Permit's use of Method 608 for the measurement of PCBs in SIM's discharge was consistent with federal and state regulation. Ecology respectfully requests this Court to affirm the Board on these issues, and dismiss PSA's petition.

RESPECTFULLY SUBMITTED this 1st day of June, 2016.

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CERTIFICATE OF SERVICE

Pursuant to RCW 9A.72.085, I certify that on the 1st day of June 2016, I caused to be served Respondent's Brief in Response to Petitioner's Opening Brief in the above-captioned matter upon the parties herein as indicated below:

RICHARD A. SMITH CLAIRE E. TONRY SMITH & LOWNEY 2317 EAST JOHN STREET SEATTLE WA 98112 *(Attorneys for Appellants)*	[ ] U.S. Mail [ ] Hand Delivered [ ] Overnight Express [ ] By Fax: [x] By Email: rasmithwa@igc.org clairet@igc.org
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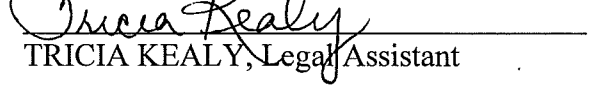
the foregoing being the last known addresses.

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

DATED this 1st day of June, 2016, at Olympia, Washington.



TRICIA KEALY, Legal Assistant

WASHINGTON STATE ATTORNEY GENERAL

June 01, 2016 - 3:09 PM

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APPENDIX A

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 136, 260, 423, 430, and 435

[EPA–HQ–OW–2010–0192; FRL–9189–4]

RIN 2040–AF09

Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: EPA is proposing changes to analysis and sampling test procedures in wastewater regulations. These changes will provide increased flexibility to the regulated community and laboratories in their selection of analytical methods (test procedures) for use in Clean Water Act programs. The changes include proposal of EPA methods and methods published by voluntary consensus standard bodies, such as ASTM International and the Standard Methods Committee and updated versions of currently approved methods. EPA is also proposing to add certain methods reviewed under the alternate test procedures program. Further, EPA is proposing changes to the current regulations to clarify the process for EPA approval for use of alternate procedures for nationwide and Regional use. In addition, EPA is proposing minimum quality control requirements to improve consistency across method versions; corrections to previously approved methods; and changes to sample collection, preservation, and holding time requirements. Finally, EPA is proposing changes to how EPA cites methods in three effluent guideline regulations.

DATES: EPA must receive your comments on this proposal on or before November 22, 2010.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA–HQ–OW–2010–0192, by one of the following methods:

- *http://www.regulations.gov:* Follow the on-line instructions for submitting comments.
- *E-mail: OW-Docket@epa.gov,* Attention Docket ID No. EPA–HQ–OW–2010–0192.
- *Mail:* Water Docket, U.S. Environmental Protection Agency, Mailcode: 2822T, 1200 Pennsylvania Ave., NW., Washington, DC 20460. Attention Docket ID No. EPA–HQ–OW–2010–0192. Please include a total of 3 copies.
- *Hand Delivery:* Water Docket, EPA Docket Center, EPA West Building Room 3334, 1301 Constitution Ave., NW., Washington, DC, Attention Docket ID No. EPA–HQ–OW–2010–0192. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information by calling 202–566–2426.

Instructions: Direct your comments to Docket ID No. EPA–HQ–OW–2010–0192. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at *http://www.regulations.gov,* including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through *http://www.regulations.gov* or e-mail. The *http://www.regulations.gov* Web site is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your comment. If you send an e-mail comment directly to EPA without going through *http://www.regulations.gov* your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD–ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the *http://www.regulations.gov* index. Although listed in the index, some information is not publicly available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in *http://www.regulations.gov* or in hard copy at the Water Docket in the EPA Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave., NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is 202–566–1744, and the telephone number for the Water Docket is 202–566–2426.

FOR FURTHER INFORMATION CONTACT: Lemuel Walker, Engineering and Analysis Division (4303T), USEPA Office of Science and Technology, 1200 Pennsylvania Ave., NW., Washington, DC 20460, 202–566–1077, (*e-mail: walker.lemuel@epa.gov*), or Meghan Hessenauer, Engineering and Analysis Division (4303T), USEPA Office of Science and Technology, 1200 Pennsylvania Ave., NW., Washington, DC 20460, 202–566–1040 (*e-mail: hessenauer.meghan@epa.gov*).

SUPPLEMENTARY INFORMATION:

A. General Information

1. Does this action apply to me?

This proposed rule could affect a number of different entities. Potential regulators may include EPA Regions, as well as States, Territories and Tribes authorized to implement the National Pollutant Discharge Elimination System (NPDES) program, and issue permits with conditions designed to ensure compliance with the technology-based and water quality-based requirements of the Clean Water Act (CWA). These permits may include restrictions on the quantity of pollutants that may be discharged as well as pollutant measurement and reporting requirements. If EPA has approved a test procedure for analysis of a specific pollutant, the NPDES permitee must use an approved test procedure (or an approved alternate test procedure) for the specific pollutant when measuring the required waste constituent. Similarly, if EPA has established sampling requirements, measurements taken under an NPDES permit must comply with these requirements. Therefore, entities with NPDES permits will potentially be regulated by the actions in this rulemaking. Categories and entities that may potentially be subject to the requirements of today's rule include:

requirements) for CWA programs at 40 CFR part 136, though some requirements are codified in other Parts (*e.g.*, 40 CFR chapter I, subchapters N and O).

II. Summary of Proposed Rule

EPA's regulations at 40 CFR part 136 identify test procedures that must be used for the analysis of pollutants in all applications and report under the CWA NPDES program as well as State certifications pursuant to section 401 of the CWA. Included among the approved test procedures are analytical methods developed by EPA as well as methods developed by voluntary standards development organizations such as ASTM International and by the joint efforts of the Standard Methods Committee which is comprised of three technical societies (American Public Health Association, American Water Works Association and the Water Environment Federation) and produce *Standard Methods for the Examination of Water and Wastewater.* EPA approves analytical methods (test procedures) for measuring regulated pollutants in wastewater. Regulated and regulatory entities use these approved methods for determining compliance with NPDES permits or other monitoring requirements. Often, these entities have a choice in deciding which approved method they will use because EPA has approved the use of more than one method. This rule proposes to add to this list of approved methods. Associated with the proposed approved methods are their regulated analytes (parameters) within the method. Some of these proposed methods introduce new technologies to the NPDES program, while others are updated versions of previously approved methods. These additions will improve data quality and provide the regulated community with greater flexibility. Further, EPA is aware that organizations sometimes republish methods to correct errors or revise the description. These changes do not affect the performance of the method. Therefore, if there are changes for methods in this proposed rule before publication of a final rule, EPA will include the updated versions. In the tables at Section 136.3, EPA lists the parameters in alphabetical order. To better identify new parameters proposed in this rule EPA added some of these parameters, such as bisphenol A and nonylphenol, at the end of these lists. In the final rule, EPA may choose to reorder the listings to arrange all parameters alphabetically.

A. Changes to 40 CFR 136.3 To Include New EPA Methods and New Versions of Previously Approved EPA Methods

EPA is proposing to add new EPA methods that require new technologies to its Part 136 test procedures. EPA also is proposing new versions of already approved EPA methods with technologies that have been in use for many years. The new EPA methods and new versions of EPA approved methods are described in the following paragraphs.

1. EPA is proposing a new version of EPA Method 1664, 1664B: N-Hexane Extractable Material (HEM; Oil and Grease) and Silica Gel Treated N-Hexane Extractable Material (SGT–HEM; Non-polar Material) by Extraction and Gravimetry for use in CWA programs. In addition, EPA is proposing to amend the RCRA regulations at 40 CFR 260.11, which currently specify use of method 1664A, to additionally specify the revised version, 1664B.

Currently, Method 1664A is used as a required testing method to determine eligibility of materials for certain conditional exclusions from RCRA regulations under 40 CFR 260.20 and 260.22. These exclusions are known as "delistings." These delistings provide that certain wastes generated at particular facilities are no longer classified as hazardous wastes under RCRA. When delistings are granted by EPA, the Agency describes them, along with applicable conditions, in appendix IX to 40 CFR part 261.

A number of delistings specify, among other things, the following test method: "Method 9070A (uses EPA Method 1664, Rev. A)." This testing method must be used by waste generators to determine if their wastes are an oily waste for delisting purposes. The language used in Appendix IX reads this way because Method 9070A in SW–846 (including on the SW–846 Web site, *http://www.epa.gov/epawaste/hazard/testmethods/sw846/pdfs/9070a.pdf*) simply reads that Method 1664A is to be used. Thus, although Method 9070A is cited, it is actually Method 1664A. Method 9070A does not exist independently of Method 1664A.

Once this rule becomes final, we would encourage future delistings, if applicable, to cite the test method as "Method 9070A (uses Method EPA 1664, Rev. B)." EPA is not proposing to amend delistings granted in previous years that reference Method 1664A at this time, since it would require additional review to assess the need for such a change and an analysis of each delisting.

Oil and Grease is a method-defined parameter that measures hexane extractable material (HEM) using n-hexane (85% minimum purity, 99.0% minimum saturated C6 isomer, residue < 1mg/L.) Before the use of Freon® was banned, EPA defined oil and grease as Freon®-extractable material. To replace Freon® for oil and grease determinations (64 FR 26315, May 14, 1999) EPA conducted extensive side-by-side studies of several extracting solvents on a variety of samples to determine how the values compared to Freon®-extractable material values.

In today's proposed rule, EPA describes six oil and grease methods, and proposes only the three methods in Table IB that use n-hexane to extract the sample because the solvent-defined definition of oil and grease measurements precludes use of any other extraction solvent or extraction technique. Without extensive side-by-side testing, permit writers, permitees, and data reviewers lack a basis for comparing HEM permit limits or measurements to values obtained with other extraction solvents or techniques. EPA lacks information about whether permit writers or permitees would value having more ways to extract oil and grease samples, or about how much effort they or others would be willing to exert to determine if the alternate values were equal to HEM values or convertible to HEM values by a conversion factor.

Although solvents may not be changed, EPA has described some allowable changes to the proposed EPA Method 1664B. This method describes (1) modifications allowable for nationwide use without prior EPA reviews (cf. documentation procedures described at 40 CFR 136.6), and (2) describes modifications not allowable including the use of any extraction solvent other than n-hexane or determination technique other than gravimetry. Although Method 1664B allows use of alternate extraction techniques, such as solid phase extraction (SPE) some discharges or waste streams may not be amenable to SPE. For these samples, 1664B should be applied as written. Conditioning of the solid-phase disk or device with solvents other than n-hexane (*e.g.*, alcohol, acetone, etc) is allowed, only if this solvent(s) is completely removed from the SPE disk or device prior to passing the sample through the SPE disk or device.

2. EPA is proposing to include in Table IB new EPA Method 200.5 and clarifying that the axial orientation of the torch is allowed for use with EPA Method 200.7. EPA Method 200.5 "Determination of Trace Elements in

APPENDIX B

BEFORE THE POLLUTION CONTROL HEARINGS BOARD
STATE OF WASHINGTON

COPPER DEVELOPMENT ASSOCIATION, INC., and THE INTERNATIONAL COPPER ASSOCIATION, LTD., OLYMPIANS FOR PUBLIC ACCOUNTABILITY, ARTHUR WEST, PUGET SOUNDKEEPER ALLIANCE, COLUMBIA RIVERKEEPER, THE BOEING COMPANY, and GUNDERSON RAIL SERVICES, Appellants, v. STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, and the PORT OF OLYMPIA, Respondents, WEYERHAEUSER COMPANY, Intervenor.	PCHB Nos. 09-135 through 09-141 FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

INTRODUCTION AND PROCEDURAL HISTORY

Multiple parties filed appeals of the Industrial Stormwater General Permit (ISGP or General Permit) issued by the Department of Ecology (Ecology) in October 2009. Attorney Richard A. Smith represented Appellants Puget Soundkeeper Alliance, Columbia Riverkeeper, and Olympians For Public Accountability (collectively referred to as PSA). Attorneys James A. Tupper and Bradford Doll represented Appellant The Boeing Company (Boeing). Attorney Beth Ginsberg represented Appellant Copper Development Association and the International Copper Association, Ltd. (collectively referred to as Copper Groups). Assistant Attorney General

Thomas J. Young and Senior Counsel Ronald L. Lavigne represented Respondent Department of Ecology (Ecology). Attorney Carolyn Lake represented Respondent Port of Olympia (Port). Attorney Charles Douthwaite represented Respondent-Intervenor Weyerhaeuser NR Company (Weyerhaeuser). The Board dismissed Appellant Arthur West as a party to this appeal by Order dated February 7, 2011, for failing to appear and participate in any manner at hearing, and failing to comply with aspects of the Pre-Hearing Order.

A Pre-Hearing Order dated January 25, 2010, identified seventy-one (71) legal issues which governed the proceedings and controlled the issues before the Board on appeal. The Board entered seven Orders on Summary Judgment addressing many of the legal issues raised by the parties, while requiring others to proceed to hearing.[1] After the completion of motion practice, thirty-one (31) issues remained for hearing. For ease of reference those issues are set out in Appendix A to this decision. The issues remaining for hearing addressed the validity of a number of aspects of the ISGP, and generally include the following: 1) the basic framework of the permit, with its combination of benchmarks and numeric effluent limitations; 2) specific benchmark values, and the methodology to derive them, including those for copper, zinc, oil, and those applicable to the timber and paper products industry; 3) several of the numeric effluent limitations for discharges to 303(d)-listed water bodies, or the omission of such limitations; 4) compliance with antidegradation requirements of state law; 5) monitoring and sampling requirements; 6) adaptive management/corrective action requirements, including the associated

[1] Boeing filed a motion for reconsideration of one aspect of the Board's January 5, 2011 Order on Summary Judgment (Legal Issues No. 31 and 62). The Board allowed Boeing to present evidence on the disputed issues and addresses the Motion further below.

waiver and extension provisions; 7) backsliding prohibitions; 8) standing; and 9) miscellaneous other issues that we conclude have been abandoned.

The Board held a hearing in this matter on January 24 through February 3, 2011, at the Board's offices in Tumwater, Washington. Board Member Kathleen D. Mix presided for the Pollution Control Hearings Board, joined by Board Member William H. Lynch and Board Chair Andrea McNamara Doyle. Randi Hamilton and Kim Otis of Gene Barker and Associates, Olympia, Washington provided court-reporting services.

The Board received the sworn testimony of witnesses, admitted exhibits, and heard arguments on behalf of the parties. Having fully considered the record, the Board enters the following:

FINDINGS OF FACT

A. Background to Permit Development

[1]

Ecology issued the ISGP on October 21, 2009, with an effective period of five years, from January 1, 2010, to January 1, 2015. This version of the General Permit replaces the 2004 ISGP, which was re-issued without changes on August 15, 2007, and October 15, 2008. The ISGP is a National Pollutant Discharge Elimination System (NPDES) permit, issued on a statewide basis to regulate stormwater discharges at approximately 1200 industrial facilities that discharge stormwater to surface waters or to a storm sewer system that drains to surface waters. The ISGP, like other general permits, allows Ecology to regulate and administer a single permit for multiple industries that discharge to waters of the State, rather than issuing individual

NPDES discharge permits to multiple industrial dischargers.[2] *ISGP, Fact Sheet; Killelea Testimony.*

[2]

Ecology's decisions on the final terms of the 2010 ISGP were informed by several processes. Consultants Envirovision and Herrera Environmental prepared a 2006 evaluation of possible methods to improve the effectiveness of the ISGP, studying extensive sets of data to examine issues related to monitoring and the use of numeric effluent limitations in the permit. A 2008 survey of field inspectors and enforcement staff identified areas where the previous permit had worked well or needed improvement. Ecology also used an internal and external committee process to develop the 2009 ISGP. An internal Ecology team, comprised of inspection and enforcement staff, engineers, and policy managers, developed permit terms. An external committee comprised of environmental and business interests, local government representatives, and others reviewed, commented, and also helped develop the final version of the ISGP. In 2006 and 2007 Ecology released draft permits for public comment, but these drafts were highly controversial. Both Ecology and the regulated community had substantial concerns about the cost of implementation. Concerned with the legal defensibility of the permit terms, Ecology continued to refine permit terms. *Exs. B-35, P-6; Killelea Testimony.*

[3]

As it developed the 2010-2015 iteration of the ISGP, Ecology sought to address several problems it had identified with the prior permitting approach. First, Ecology considered the

[2] Boeing, PSA, and Ecology each offered the 2010 ISGP and related draft Fact Sheet into evidence, and the Board admitted the same. Exs. B-1, P-1, E-1, B-3, P-2, E-2. For ease of reference in this opinion those exhibits will be referred to as the "ISGP," or "Fact Sheet," or reference will be made directly to the relevant permit condition.

previous permit to be overly complex, confusing, and long. Second, the corrective action provisions of the previous permit had proved ineffective and difficult to enforce. Finally, Ecology had questions as to whether or not the benchmark values of the previous permit were protective enough of water quality, and also wanted to clarify the requirements that must be included in a facility Stormwater Pollution Prevention Plan (SWPPP), a centerpiece of stormwater management. *Ex. P-6; Killelea Testimony.*

[4]

Historically, full compliance with all the terms of the ISGP by regulated facilities has been low. In 2009, when Ecology issued the Fact Sheet which accompanied the draft permit, it provided statistics showing varying compliance rates on key permit terms, stating "[F]acility inspections have revealed that many facilities with permit coverage are not in compliance with permit provisions." Facilities were not submitting discharge monitoring reports (DMRS) (30% not submitting in 2008). While three quarters of facilities could provide their stormwater pollution prevention plan at the time of inspection, forty percent or less of permitted sites had up-to-date, fully implemented SWPPPs. Sixty to seventy percent of facilities could identify one or more best management practices (BMPs) that were maintained to manage stormwater. Ecology concluded that the overly complex and confusing aspects of the previous permit, in addition to its sheer length, made it difficult for permittees to fully comply with its requirements. *Exs. E-6, Fact Sheet, p. 36; Kaufman, Stasch Testimony.*

[5]

Despite this lack of full compliance by the regulated industrial sector, the rate of compliance with key permit terms has consistently improved over the last five years, in areas

such as implementing BMPs and complying with monitoring requirements. Ecology is combining technical assistance with effective enforcement strategies in order to improve permit compliance. Ecology has made a concerted effort to improve the submittal rates for DMRs, with an escalating series of warning letters and "field ticket" enforcement efforts. This latter effort results in a $3000 penalty where there has been a repeated failure to submit DMRs over three reporting quarters. Despite widespread and substantial budget reductions in state government generally, and at the agency specifically, Ecology is attempting to maintain stormwater inspection and enforcement staff as a high priority. *Moore, Stasch, Kaufman Testimony.*

[6]

Ecology also developed the framework and specific terms of the 2010 ISGP in recognition of the unique nature of stormwater. In contrast to other wastewater discharges and point sources of pollution, stormwater runoff exhibits highly variable flow rates and flow volumes, a fact this Board has repeatedly recognized in appeals of stormwater general permits. Pollutant concentrations can vary greatly. Stormwater monitoring data reveals far greater variability than other types of pollutant discharges regulated by other NPDES permits. Derivation of effluent limitations or determination of patterns in discharges is made more difficult because of this, and there is a recognized need for large, comprehensive data sets to adequately characterize industrial stormwater discharges, including such characteristics as flow volumes and rates and constituent concentrations. Based on this understanding of the complexity and variability of industrial stormwater discharges, Ecology determined that stormwater discharges from industrial facilities, as a general matter, may cause a violation of water quality

standards for a number of pollutant parameters, and the agency developed effluent limitations to address the same. *Fact Sheet, Ex. B-35; Killelea Testimony, Paulsen Testimony.*

[7]

The federal Environmental Protection Agency (EPA) provides permit coverage for industrial facilities in geographic areas and for classes of discharges that are outside the scope of a state's NPDES program. EPA does this through the current version of the Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), which is effective from September 2008 through September 2013. *Exs. B-59, E-3.* Ecology both relied on and borrowed from terms and approaches in the MSGP, but the two permits are not identical. EPA commented favorably on many of the terms of Ecology's ISGP, concluding that in many respects the state version is more robust and effective at regulating industrial stormwater discharges than the MSGP. Ex. *P- 21; Killelea Testimony.*

B. Overview of Relevant Permit Terms

[8]

The ISGP regulates multiple industrial sectors. These broad sectors of industries are identified by the Standard Industrial Classification (SIC) Code system. In drafting the permit, Ecology considered the manner in which stormwater may become contaminated by industrial activities as a result of industrial processes, such as contact with material stored outside or during loading, unloading or transfer, spills and leaks, and from airborne contaminants. Ecology recognized that potential pollutants were often industry specific, but that there were also significant common sources of stormwater contamination from the industrial sector (*e.g.* petroleum products and metals are common to most facilities). Using DMR data submitted by

permittees, Ecology compiled a characterization of pollutant concentrations present in the discharges from various industry sectors. This data was consistent with other observations and studies, to the effect that "first flush" events (runoff after a dry period) are associated with high pollutant concentrations, and that there is a high degree of variability in stormwater runoff. *Fact Sheet, pp. 3-34.*

[9]

Stormwater Pollution Prevention Plans (Condition S3.)

As with other general permits issued by Ecology to regulate stormwater discharges, a key provision of the ISGP is the requirement that all permittees develop and implement a Stormwater Pollution Prevention Plan (SWPPP). The ISGP sets out the items that the SWPPP must address at each facility. The SWPPP must specify the best management practices (BMPs) necessary to implement all known, available and reasonable methods of treatment (AKART), ensure compliance with state water quality standards, and comply with applicable federal technology-based treatment requirements. The ISGP requires the SWPPP to contain a site map, a detailed facility assessment, a detailed description of BMPs, a spill prevention and emergency cleanup plan, and a sampling plan. The SWPPP must contain certain "mandatory BMPs" (defined in the permit), including a number of operational source control BMPs. The SWPPP must also include structural source control BMPs that are listed as applicable in Ecology's Stormwater Management Manual (SWMM). The ISGP defines the manner and use of treatment BMPs. Finally, the SWPPP is to contain a sampling plan, with identified points of discharge, and documentation of why each discharge point is not sampled, consistent with other permit terms. *Condition S3.*

[10]

General Sampling Requirements (Condition S4.)

General sampling requirements are set out in Condition S4. of the ISGP, requiring discharge sampling from each designated location at least once per quarter, and more specific provisions applicable to sampling required at the first fall storm event of each year. The permit allows a permittee to suspend sampling for one or more parameters (other than "visible oil sheen") based on "consistent attainment" of benchmark value after four consecutive quarterly samples. *Condition S4.B.6.* The prior permit required eight consecutive quarters of attainment before a permittee could suspend sampling. *Exs. P-5, B-36.* A permittee may not suspend sampling based on consistent attainment for pollutant parameters that are subject to numeric effluent limits based on federal guidelines or a 303(d) listing as an impaired water body. *Condition S4.B.8.* Permittees monitoring more than once per quarter may average all the monitoring results for each parameter (except pH and "visible oil sheen"), and compare that value to the benchmark. *Condition S4.; Killelea Testimony.*

[11]

Benchmarks, Effluent Limitations, and Specific Sampling Requirements (Condition S5.)

Condition S5 of the ISGP establishes benchmarks (stated numerically) that are applicable to all facilities, and additional benchmarks that are applicable to specific industry sectors. *Condition S5., Table 2 and Table 3.* The term "benchmark" is defined in the permit as "a pollutant concentration used as a permit threshold, below which a pollutant is considered unlikely to cause a water quality violation, and above which it may." The definitions also states that when a pollutant concentration exceeds the benchmark, corrective action requirements are

triggered, but emphasizes that benchmark values "are not water quality standards and are not numeric effluent limitations; they are indicator values." *ISGP, Appendix 2.* Thus, benchmarks are predictive of potential water quality violations, and trigger a BMP-based response by the permittee. Ecology's definition of "benchmark" in the ISGP mirrors the definition used by EPA in the MSGP, with minor wording changes. The prior permit had a combination of benchmark values and "action levels," but this two-tiered system was confusing and complex to administer. *Ex. P-21; Killelea Testimony.*

[12]

The five benchmarks that are applicable to all facilities are as follows: 1) Turbidity at 25 NTU, 2) pH at between 5.0 and 9.0 Standard Units, 3) Oil Sheen at "no visible sheen," 4) Total Copper at 14 μg/L for Western Washington and 32μg/L for Eastern Washington, and 5) Total Zinc at 117μg/L. The permit requires sampling once per quarter for each of these parameters. *Condition S5., Table 2.* The copper benchmark is substantially lower (more stringent) than the previous permit, and now applies to all permittees, but the zinc benchmark remains the same. Both PSA and Copper Groups dispute the methodology used to establish the copper benchmark, and argue that it is either underprotective (PSA), or overprotective (Copper Groups) of beneficial uses. *Horner Testimony, Paulsen Testimony.* PSA also disputes the change to a "no visible sheen" measurement of for oil and grease, and takes issue with the zinc benchmark. *Killelea Testimony.*

[13]

The only additional benchmarks and sampling requirements at issue in this appeal are those applicable to the Timber Product Industry and Paper and Allied Products Industry. PSA

asserts these are less stringent than the previous iteration of the ISGP. The permit sets a benchmark of 120 mg/L for COD (chemical oxygen demand) and a benchmark of 100 mg/L for TSS (total suspended solids). The prior permit had a lower benchmark for Biological Oxygen Demand (BOD), and a dissolved oxygen (DO) benchmark for certain industries or facilities. *Condition S5.B., Table 3; Horner Testimony, Johnson Testimony, Killelea Testimony.*

[14]

Discharges to 303(d)-listed or TMDL Waters (Condition S6.)

In addition to the benchmarks of Condition S5., Condition S6. of the ISGP sets out eleven (11) numeric effluent limitations, and associated sampling requirements, for discharges to 303(d)-listed water bodies.[3] Facilities that are subject to these numeric effluent limitations are set forth (although not limited to) the facilities listed in Appendix 4 to the permit. *Condition S6.C.a., and Table 5.* Boeing and PSA each challenge limited aspects of this condition of the ISGP related to impaired water bodies. Boeing asserts that the Total Suspended Solids (TSS) effluent limit of 30 mg/L is too stringent, as is the limit for fecal coliform bacteria, which is set at the water recreation bacteria criteria of WAC 173-201A. Boeing asserts these were not "appropriately derived" effluent limitations as directed by RCW 90.48.555, and are not science-based. *Paulsen Testimony.* PSA, on the other hand, asserts that Ecology erred in failing to set numeric effluent limitations for three additional parameters of concern in 303(d)-listed waters: temperature, dissolved oxygen, and impairment based on fish tissue/bioassay. *Horner Testimony.*

[3] 303(d)-listed water bodies is a reference to those segments of water bodies that have been listed as impaired pursuant to the federal Clean Water Act, at 33 U.S.C. § 1313(d).

[15]

Corrective Actions (Condition S8.)

Condition S8. of the ISGP requires three increasingly demanding levels of corrective action when a permittee exceeds applicable benchmark values set out in the other terms of the permit. These corrective actions begin with the assumption that the permittee has in place a SWPPP that represents AKART, and the corrective actions steps will result in incremental improvement in the application or use of BMPs to address the benchmark exceedance(s). A Level 1 corrective action is required for any exceedance of the applicable benchmark, and requires the permittee to make appropriate revisions to the SWPPP to include additional Operational Source Control BMPs with the goal of achieving applicable benchmark values in future discharges. The permittee must summarize the Level 1 corrective actions in its annual report to Ecology. The permit establishes a deadline to fully implement the revised SWPPP "as soon as possible, but no later that the DMR due date for the quarter the benchmark was exceeded" (which is forty-five days after the end of the quarter, per Condition S9.A.4.). *Condition S8.B.* Although Ecology views this Level 1 provision as substantially identical to the previous permit, the 2010 ISGP does not have a specific timeframe by which a permittee must initiate a response to a benchmark exceedence, whereas the previous permit required a facility inspection "as promptly as possible but no later than two weeks after sampling results." Exs. P-5, B-36; *Killelea Testimony.*

[16]

The permit requires a Level 2 corrective action when a permittee exceeds an applicable benchmark value for any parameter for any two quarters during a calendar year. At a Level 2

corrective action, the permittee must review the SWPPP and revise it to include additional structural source control BMPs, with the goal of meeting the benchmark values in future discharges. Corrective actions planned or taken must be summarized in the Annual Report to Ecology (due May 15 of the following calendar year, per Condition S9.B.1.). The deadline is for implementation of the revised SWPPP is "as soon as possible, but no later than September 30th the following year." *Condition S8.C.* The permit includes no deadline by which a permittee must begin a Level 2 response. Ecology expects some permittees will begin implementing Level 2 structural source control BMPs as soon as possible in an effort to avoid a third benchmark exceedence in the same calendar year, which would trigger a Level 3 response; however, the agency is interpreting the permit and advising permittees that they may wait until the end of a calendar year to begin a Level 2 response even if a benchmark was exceeded in the first two quarters. *Killelea Testimony; Stasch Testimony.*

[17]

The permit requires a Level 3 corrective action when a permittee exceeds an applicable benchmark value for any single parameter for any three quarters during a calendar year. At a Level 3 corrective action level, the permittee must revise the SWPPP and include additional treatment BMPs with the goal of achieving the benchmark in future discharges. The permittee must sign and certify the revised SWPPP, and also have a licensed professional engineer, geologist, hydrogeologist, or Certified Professional in Storm Water Quality (CPSWQ) design and stamp the portion of the SWPPP that addresses stormwater treatment structures or processes. Ecology may waive this certification requirement one time during the permit cycle when the permittee demonstrates that either the permittee or a treatment device vendor can properly design

and install the treatment device. The permittee must fully implement the revised SWPPP as soon as possible, but no later than September 30th the following year. *Condition S8.D.4.; Killelea Testimony.*

[18]

Ecology may modify the deadlines for a Level 2 or Level 3 corrective actions if installation of necessary structural source control BMPs (Level 2) or treatment BMPs (Level 3) is not feasible by the permit's deadline. If installation of structural source control or treatment BMPs is "not feasible or not necessary" to prevent discharges that may cause or contribute to a violation of a water quality standard, Ecology may waive the requirement altogether. Both modifications of the deadlines and waiver of the requirements are accomplished through a "modification of coverage" request, which results in a formal modification of the permit to that particular permittee. Boeing asserts that the waiver provisions are unclear and ambiguous, particularly as it relates to other requirements of the permit to implement the adaptive management scheme in an effort to meet benchmarks. PSA says the waiver provision is unlawful as the permit then fails to require compliance with water quality standards.

[19]

In addition to the permit terms allowing modification of deadlines, or waivers of the Level 2 and Level 3 requirements, Condition S8. contains two footnotes that have cast confusion on when a Level 3 deadline is triggered if a permittee has already undertaken a Level 2 response. *Condition S8.C. and D. (footnotes 4 and 5).* Ecology intended that these footnotes would clarify that a permittee must consider an entire calendar year of sampling results before determining whether to implement a Level 2 or 3 corrective action, but the language of footnote 4 in

1 particular, suggests otherwise. Ecology's interpretation would result in "alternating years" for
2 implementation of such corrective actions, something Ecology wanted in the permit's adaptive
3 management scheme in order to give facilities adequate time to address reported problems.
4 *Killelea Testimony.*

5 [20]

6 Both PSA and Boeing criticize the ISGP's fundamental reliance on a combination
7 effluent limitations expressed either as benchmarks, which are part of the adaptive management
8 scheme of the permit, and the numeric effluent limitations applicable to particular discharges.
9 PSA asserts that Ecology should establish numeric effluent limitations for all industrial
10 discharges, and that it is feasible to do so. PSA reasons that this would force facilities to transfer
11 industrial activities and material out of contact with rainfall and runoff, resulting in maximum
12 reuse of industrial stormwater, and treatment of the remainder with the best available
13 technologies. PSA asserts that these numeric effluent limitations should be based on a
14 "reasonable potential analysis" that would assess whether there is a reasonable potential for
15 discharges to cause or contribute to water quality standards exceedances, where non-numeric,
16 BMP-based approaches are ineffective. *Horner Testimony.* Boeing, on the other hand, presented
17 evidence criticizing both the benchmark-based BMP aspects of the permit, and the inclusion of
18 any numeric effluent limitations. Boeing asserts that existing datasets are insufficient to allow
19 determination of "reasonable potential," or to serve as the basis for the calculation of
20 scientifically sound effluent limitations or benchmarks. While agreeing that a BMP-based
21 approach is both feasible and improves water quality, Boeing asserts this approach should be

1 paired not with "benchmarks," but rather with "action levels," which are a less rigorous trigger
2 for adaptive management at a particular facility. *Paulsen Testimony.*
3 [21]
4 Business entities subject to regulation under the terms of the ISGP offer conflicting views
5 as to the clarity, lawfulness and acceptability of various permit terms. Boeing and
6 Weyerhaeuser, both parties to this case presented contrasting views of their ability to understand
7 and comply with permit terms. Boeing testified that the adaptive management provisions of the
8 permit are extremely confusing, and that they are unsure of the meaning of waiver provisions
9 that provide facilities relief from aspects of the corrective action provisions of the permit.
10 Boeing questions whether the corrective action scheme of the ISGP actually represents a real
11 adaptive management process that includes planning, implementation, monitoring, and
12 responding, as was intended, or whether the permit's prescriptive emphasis on meeting
13 benchmarks that apply uniformly across industrial sectors will drive an excessive amount of
14 needless corrective action by business. *Oleson Testimony.* In contrast, Weyerhaeuser states the
15 new permit provides site managers with a confident path to compliance, giving them a good
16 balance of mandatory BMPs and industry specific BMPs, as well as associated "waiver"
17 provisions that allow the facility to show it can still comply with water quality provisions, even if
18 it cannot consistently meet the permit's benchmark indicator values. The company's corporate
19 environmental manager expressed a clear understanding of what the business would do if one of
20 its facilities continued to fail to meet benchmark values, and needed a waiver of the corrective
21 action level responses under Condition S8. Weyerhaeuser states that the new permit is less

complex than the last iteration, particularly in the corrective action provisions. *Johnson Testimony.*

C. Development of Benchmarks

1. Copper and Zinc Benchmarks

[22]

The previous version of the ISGP had a copper benchmark of 63.6 µg/L and a zinc benchmark of 117 µg/L. *Ex. P-5.* Ecology's decision to include a much lower copper benchmark in this version of the ISGP was influenced by experience in setting a very high copper benchmark in the 2005 Boatyard General Permit (which was set aside on appeal), and a turbidity benchmark in the 2005 Construction Stormwater General Permit (which was affirmed on appeal). With the ISGP benchmark value for copper and zinc, Ecology sought to protect beneficial uses in the vast majority of conditions, balancing that goal with a recognition that toxicity of metals (and some other pollutants) is influenced by factors in the receiving waters, where the discharge is dispersed. *Killelea Testimony.*

[23]

Copper can decrease survival, growth, and reproduction of aquatic organisms. Copper concentrations in stormwater discharges have a number of serious sublethal effects on salmonids. Copper can interact with the olfactory system of fish and aquatic invertebrates, causing them to avoid copper-containing water. Once impaired by copper exposure, fish and organisms will lose important functions such as attraction to food odors and reproductive pheromones, or avoidance of predators. Studies have demonstrated avoidance of copper or impairment of olfaction in salmonid fishes exposed to very low levels of copper concentrations (as low as 1 to 2µg Cu/L).

In addition to disrupted osmoregulation, inhibited migration, and olfactory impairment, other studies identify copper exposure as contributing to impaired disease resistance, impaired respiration and brain function, and altered blood chemistry. While experts largely agree on the range of lethal and sublethal effects of copper on salmonids and other aquatic organisms, there is sharper disagreement about the extent to which water chemistry, and Washington specific water chemistry, modifies the acute and chronic toxicity of copper to these organisms. There is related disagreement as to the interpretation of various studies, and at what copper concentration levels adverse effects appear in salmonid fish. *Meyer Testimony, Horner Testimony; Exs. C-7, C-10.*

[24]

In order to develop the copper benchmark for this iteration of the ISGP, Ecology hired Herrera Environmental Consultants to evaluate the effects of receiving water chemistry on the toxicity of copper discharges. Herrera evaluated the probability of exceeding the acute water quality standards for copper, lead, and zinc based on receiving water conditions having the highest potential for occurrence. *Killelea Testimony, Lenth Testimony.* Herrera, lead by principle scientist John Lenth, produced a report in February 2009 addressing this issue. *Water Quality Risk Evaluation for Proposed Benchmarks/Action Levels in the Industrial Stormwater General Permit. Exs. B-20, P-12, E-6; Lenth Testimony.*

[25]

The Herrera report relies on a Monte Carlo simulation, a well-established statistical method utilized to estimate possible outcomes from a model by performing repeated calculations a large number of times and observing the outcomes. When the results from all the repeated calculations are combined, a probability distribution can be derived for the model output that

indicates which predicted values have a higher probability of occurrence. In this case, Herrera used the Monte Carlo simulation to give a realistic prediction of the probability of industrial stormwater discharges exceeding the acute water quality criteria for copper, lead, and zinc, given one of three dilution factors in the receiving water (1, 5, or 10). Experts agree that the dynamic modeling approach of a Monte Carlo simulation provides a more realistic representation of receiving water concentrations and/or toxicity than steady-state models used to evaluate less variable effluent discharges such as those from waste water treatment plants. *Lenth Testimony, Paulsen Testimony.* The Herrera report presented the results of the simulation as a series of graphs that depict the percentage (%) probability of exceeding water quality standards as a function of effluent concentrations given one of these three dilution factors. These graphs presented Ecology a picture of the likelihood, or risk, of exceeding water quality criteria for each of these pollutants, depending on the given dilution factor. Ecology then had a policy choice to determine which of the risk levels, and associated discharge effluent limitations, were acceptable and could be used for permit benchmarks. The Herrera report also used a "translator value" to facilitate comparison of the acute water quality standard for copper in the receiving water with the predicted concentration of copper at the point of discharge. The translator value allowed Herrera to estimate the dissolved fraction of copper that would be present in the receiving water for effluent concentrations that are required by federal regulations to be expressed as total recoverable metals. The evaluation also factored in the hardness of receiving waters in Western and Eastern Washington. The author of the Herrera report sets out the data relied upon, and in pre-filed testimony clarifies and responds to criticisms levied by other experts of that data. *Lenth Testimony, Exs. B-20, P-12, E-6.*

[26]

Based on the Herrera analysis and probability "risk curves," Ecology made the decision to base the copper benchmark in the ISGP on a dilution factor of 5 and a 10% probability of exceeding the acute water quality standard for copper. Ecology recognized that the concentration of the metal in a stormwater discharge is dispersed to some degree in the receiving water. Ecology did not consider use of a dilution factor as a method to evaluate probability of exceeding water quality standards to be the same as granting a "mixing zone," which is allowed by regulation under limited circumstances. Rather, the agency concluded that the copper benchmark level of the final ISGP would be protective of water quality in the vast majority of conditions. Where a modest amount of dilution is available in the receiving water, the agency further determined that, in order to meet a benchmark of 14μg/L (Western WA) and 32 μg/L (Eastern WA), a facility will need to be implementing all necessary and relevant BMPs, and AKART. *Killelea Testimony*; *Exs. B-20, P-12, E-6.*

[27]

EPA supported Ecology's selection of copper benchmarks at 14 μg/L and 32 μg/L for western and eastern Washington, respectively. EPA noted that the benchmarks were significantly lower than the 63.6 μg/L of the previous permit and more representative of a level that would ensure attainment of the copper water quality standard and avoid or minimize adverse effects to aquatic species. While EPA's own MSGP includes a lower copper benchmark level (5.6 μg/L for Western Washington freshwaters), EPA concluded that the ISGP contained "more robust non-numeric effluent limitations" such as specific corrective action steps and vacuum sweeping, which provided a similar level of protection to the MSGP. *Ex. P-20; Killelea*

Testimony. On the other hand, the National Marine Fisheries Service (NMFS) was more critical of these benchmark levels, and concluded in comments on the draft permit that benchmarks based on a dilution factor of 5, and a 10% risk for exceeding the applicable water quality standard for each metal, is not an approach that provides adequate protection for listed salmon. NMFS did not believe more than minor detrimental effects to listed salmon and steelhead would be avoided under the draft terms of the ISGP. *Ex. P-21.*

[28]

Both Boeing and Copper Groups criticize the copper benchmarks as unreasonably stringent. They contend the benchmark is overprotective, and that Ecology failed to use best available science to calculate appropriate values. Copper Groups opines that Ecology should have employed a water effects ratio (WER) or biotic ligand modeling (BLM), two procedures that could take into account chemical and physical factors that mitigate the toxicity of copper to aquatic organisms. Copper Groups asserts that the Herrera report provides an insufficient basis to support the technical validity of the copper benchmarks, and that using only water hardness as a modifying factor for the toxicity of copper is now an outdated approach. Copper Groups, through their expert, Dr. Meyer, advances use of the BLM as a method to account for the ways in which pH, alkalinity, hardness, and dissolved organic carbon modify the toxicity of metals to fish and other aquatic organisms. Dr. Meyer opines that given Ecology's use of a dilution factor of 5, the ISGP's authorized instream concentrations of copper are even lower than expressed in the permit's effluent limitation, ensuring they are protective, or over-protective, of salmonid fish. *Ex. C-11; Meyer Testimony*. Dr. Meyer and PSA's expert, Dr. Horner, disagree on many elements of this issue, with Dr. Horner criticizing Ecology's use of a dilution factor, allowance

of a 10% risk of exceedance factor, on the basis that they allow benchmarks that will result in harm to salmonid fish. Dr. Horner agrees that dissolved organic carbon, a key factor in the biotic ligand model, tends to ameliorate the negative effects of copper, but states that it is generally is not in sufficient supply in Washington's water to protect fish. *Horner Testimony.*

[29]

EPA recently modified its water quality criteria to be based on a biotic ligand model, rather than water hardness based criteria, which is the current basis of Washington's water quality standard for copper. Although EPA has taken this step, the new BLM-based copper criteria have not been adopted by any of the states in which migration and spawning of Pacific salmonids are a major concern (or any other states), nor has it been used to develop NPDES permit conditions to date. *Ex. C-7; Meyer Testimony.*

[30]

Ecology has previously used a WER to account for the mitigating effects of receiving water on the toxicity of metals in limited circumstances, including in at least one individual permit, and in one general permit. Ecology used a modified form of a WER in development of the last iteration of the Boatyard General Permit in 2005, but rejected a similar use in the development of the ISGP for several reasons. First, the water quality standards state that a WER is to be applied on a site-specific basis. The ISGP represents a much more diverse set of discharges and receiving water conditions than were present in the somewhat more limited situation of western Washington boatyard-specific discharges. More importantly, since Ecology's use of a WER in the Boatyard General Permit, EPA has informed Ecology that use of a WER is a change to the state water quality standards, creating a new water quality standard for

a particular body of water. EPA has informed Ecology that such a change requires EPA approval and a rule revision process by Ecology, a costly and lengthy process. The last revision of the state water quality standards, with attendant EPA review and approval, took ten years. This has effectively taken use of the site specific WER off the table as a tool to adjust water quality criteria, at least until such time as EPA modifies its stance. Rather than attempt to utilize a WER in the modified manner it has used it in other settings, Ecology chose instead to take into account receiving water characteristics through use of the Monte Carlo simulation, which factored in hardness, a dilution factor, and a translator value to facilitate a comparison of dissolved fractions of metals to total recoverable metals in the discharge versus receiving waters. *Gildersleeve Testimony, Killelea Testimony.*

[31]

The conflicting expert opinions and evidence on the proper approach to establishing a copper benchmark, and what the proper value for a benchmark should be, demonstrate the difficulty of arriving at an adequately protective benchmark that is also achievable by industry and moves industry towards compliance with the water quality standards. While Boeing and the Copper Groups experts disagree with the methodology for arriving at the copper benchmark, they agreed the benchmark is sufficiently protective, if not overly protective, of salmon and trout, disagreeing with the opinions of PSA's expert. *Ex. C-10; Meyer Testimony, Paulsen Testimony.* PSA's expert criticizes the benchmark as being far higher than that set out in the MSGP, but disregards EPA's own analysis of how the benchmark works in relation to other demanding permit terms. *Horner Testimony.*

[32]

The Board was presented with little evidence supporting a challenge to the zinc benchmark of the ISGP. The zinc benchmark of the ISGP is set at 117µg/L and is unchanged from the prior permit. The Herrera report analyzed zinc in the same manner as copper, and presented Ecology with three risk curves based on dilution factors of 1, 5, and 10. If Ecology had applied the same standard that it applied to copper (dilution factor of 5, and a 10% risk threshold for exceeding the applicable water quality standard), the zinc benchmark would have been higher, and the permit could have been challenged for backsliding on this effluent limitation. *Lenth Testimony, Killelea Testimony; Ex. B-21.*

2. Timber Product Industry, Paper and Allied Products Benchmarks – COD and TSS

[33]

The 2010 ISGP benchmark for the timber product industry and paper and allied products industry differs from the benchmark in the prior permit. The last permit had a benchmark for BOD at 30 mg/l, and no benchmark for Total Suspended Solids (TSS). The current ISGP, with benchmarks of COD at 120mg/l and TSS at 100 mg/l, is consistent with EPA's MSGP (in the case of TSS), and represents a more complete and accurate measure of oxygen demanding substances in the water (in the case of COD). The change to the new benchmark was responsive to public and industry comment, and took into account the limitations of a sampling regime based on BOD, which can be interfered with by toxic materials, and was developed more for use in the sampling of sewage wastewater, not stormwater. The COD benchmark value is four times higher than the previous BOD benchmark. To establish this 4:1 ratio, Ecology relied on information used by EPA in establishing the same benchmark in the MSGP, which was, in turn,

based on a North Carolina study that established a 4:1 equivalency ratio (COD to BOD). Ecology's permit writer, Jeff Killelea also looked at other data that evaluated the relationship of BOD to COD in stormwater, including stormwater from industrial land uses, which showed even greater ratios of COD to BOD, leading him to conclude that although higher in number (100 mg/l), the COD benchmark may be more protective of water quality than the previous lower BOD limit. *Killelea Testimony.*

[34]

PSA contends that the benchmark of 120 mg/L COD is less demanding than the 30 mg/l BOD of the previous permit, and therefore represents backsliding in permit terms. PSA states that it is widely held that the relationship between BOD and COD is highly variable and that a reliable conversion can only be obtained through side-by-side measurements of the two variables over time. While not objecting to use of COD as a replacement to a BOD benchmark, PSA asserts the benchmark value must rest on a stronger analytical foundation, and that there should be parallel analyses of both BOD and COD to determine if a reliable conversion can be developed to translate from one measure to the other under conditions in Washington waters. *Horner Testimony.*

[35]

Weyerhaeuser, a permittee specifically affected by the COD and TSS benchmarks, considers the new combination of benchmarks to be more demanding than the previous permit, and states there will be no reduction of effort due to the change to a COD benchmark. Weyerhaeuser also agrees that the relationship between BOD and COD is variable, but provided convincing evidence from literature reviews, regulatory discussion, and specific sampling results

demonstrating that COD is always the higher of the two values, usually materially higher. The Weyerhaeuser sampling results demonstrate that a 4:1 ratio, BOD to COD, is well-founded, if not conservative. *Exs. W-1, W-2, W-3A, W-3B, W-3C; Johnson Testimony.*

3. Oil/visible sheen benchmark

The prior version of the ISGP had a benchmark of 15 mg/l for oil and grease. The current version of the ISGP changed to a benchmark of "no visible oil sheen," applicable to all facilities. *Condition S5.A. (Table 2).* Ecology also set an additional related benchmark for specific, higher risk industries for a Total Petroleum Hydrocarbons (TPH). *Condition S5.A. (Table 3).* Ecology made this decision based on a consultant report that concluded only a low level of industrial facilities exceeded the prior benchmark, and because the changed standard could provide more instantaneous results to a facility, and therefore, more immediate corrective action. Ecology's decision was also based on problems encountered by permittees in obtaining grab samples with representative amounts of oil/grease for reliable lab analysis. *Killelea Testimony.* PSA's testimony asserts that the switch to a "visible oil sheen" benchmark is a weakening of the permit, because it accounts for only floating oil, not dissolved, solidified, or emulsified petroleum fractions in the water, which do not show as an oil sheen. PSA states that observing stormwater discharges for oil sheen will likely be ineffective, because there is no requirement to observe receiving waters, and the turbulence associated with stormwater runoff will not lend itself to visual detection of an oil sheen. Other circumstances, such as evaporation, may also render this an unreliable benchmark standard, according to PSA. *Horner Testimony.* Ecology rejects these criticisms as improbable, and has provided guidance on how to sample for this modified parameter. Ecology states that the addition of TPH as a parameter for industries of

particular concern for petroleum discharges is an improvement over the prior permit. *Ex. P-9; Killelea Testimony.*

D. Numeric Effluent Limitations for Discharges to 303(d)-listed Water Bodies

1. Total Suspended Solids (TSS)

[36]

Permittees who discharge to water bodies 303(d)-listed for any *sediment* quality parameter are required to sample the discharge for TSS. *Condition S6. C. (Table 5).* The TSS effluent limit is set at 30mg/L for both fresh and marine water. Boeing contends that the TSS effluent limitation is not based on sound science, and that a site-specific evaluation is needed to determine if any given industrial facility discharge will cause or contribute to an exceedance of sediment management standards. Boeing states that the mixing behavior and sediment deposition patterns within receiving waters are complex and the concentrations of pollutants on sediment particles varies widely. Boeing also contends that TSS is not correlated with other pollutant concentrations, and cannot serve as a surrogate for those pollutants. For these reasons, Boeing asks the Board to conclude that Ecology could not appropriately derive a limit for TSS and that the ISGP should not contain a TSS effluent limitation. *Paulsen Testimony.*

[37]

Ecology included the TSS limitation in the ISGP because NPDES permitted discharges result in recontamination and exacerbation of problems at sites being addressed, and remediated, under Ecology's Toxics Cleanup Program. Ecology staff in that program concluded that both municipal and industrial stormwater discharges have contributed to exceedances of sediment management standards and impacts to sediment quality at various sites, including several

Superfund clean-up sites. The Toxics Cleanup Program offered ISGP permit writers several options to address potential recontamination of aquatic sediment sites by industrial discharges, including options that would require monitoring of effluents for a variety of pollutants that contribute to violations of sediment management standards (such as PCBs). The ISGP permit writing team rejected other options as unreasonable, as such options involved substantial costs for permittees to monitor effluent, and a substantial burden on Ecology to evaluate data collected by permittees. The option that ultimately became the effluent limitation of the permit assumed that compliance with a 30mg/L TSS parameter would be sufficient to maintain compliance with sediment management standards, so long as other operational source control BMPs, such as sweeping and catch basin cleaning, were aggressively implemented at facilities. Implementation of such BMPs is expected to capture particulates that attach to sediments (such as PCBs, pesticides, phthalates), and protect against contamination and recontamination of sediments in the receiving water. The Toxics Cleanup Program did not agree that the effluent limitation of 30mg/L was adequate to ensure compliance with the sediment management standards. *Ex. B-89; Killelea Testimony.*

2. Fecal Coliform

[38]

The presence of fecal coliform bacteria in state waters is one of the primary water quality problems that has led to listing some water bodies on the 303(d) list as impaired (along with impairment due to temperature). *Ex. P-26.* The ISGP sets a numeric effluent limitation for discharges to water bodies 303(d)-listed for fecal coliform bacteria at the water recreation bacteria criteria (WAC 173-201A) applicable to the receiving water body. *Condition S6.C.,*

Table 5. Boeing criticizes this limitation as unnecessary, asserting that it is too stringent, and that fecal coliform is unlikely to be present in runoff from industrial facilities. *Paulsen Testimony.* While Ecology recognized that fecal coliform is generally associated with nonpoint source pollution or diffuse sources, the agency considered the permit effluent limitation to be an easily applied standard. *Ex. P-26; Killelea Testimony.*

3. Omission of Specific Numeric Effluent Limitations to Water Bodies Impaired for Dissolved Oxygen, Temperature, and Fish Tissue/Bioassessment.

[39]

At the time of the development of the 2010 ISGP, approximately 172 facilities, out of the nearly 1200 regulated by the permit, discharged to a 303(d)-listed water body. According to Ecology's data, most of those facilities discharged to water bodies impaired due to high temperature, high bacteria, and low dissolved oxygen. Ex. *P-26.* In developing the numeric effluent limitations for discharges to 303(d)-listed water bodies (set out at Condition S6.), Ecology applied a qualifying factor, and established effluent limitations only if the pollutants causing the impairment reasonably could be expected to be a component of stormwater discharges associated with industrial activity. *Fact Sheet, pp. 49-50.* This assumption resulted in the exclusion of dissolved oxygen (DO), temperature, and impairment due to contaminated fish tissue or bioassessment from the numeric effluent limitations of the ISGP. Ecology's conclusion on these three parameters also rested on the difficulty in deriving an effluent limitation that could be tied directly back to industrial dischargers, although the Fact Sheet for the ISGP did not express the conclusion in such terms. *Moore Testimony.* In December 2008 Ecology prepared a Draft Report to the Legislature on the question of how to implement numeric effluent limitations

for discharges to 303(d)-listed water bodies, a requirement of state law. Although the report explored several options, Ecology never submitted the report to the Legislature. In that document, the agency considered several options for establishing water-quality based numeric effluent limits for discharges to 303(d)-listed waters, one using regional or statewide assumptions of the discharge and receiving water characteristics, the second using site specific information to derive limits. Ultimately, Ecology decided to not develop effluent limitations for DO, temperature and impairment due to contaminated fish tissue/bioassessment, and, instead, applied numeric limits only to facilities discharging to impaired water bodies that were listed due to pollutants that are typically present in industrial stormwater discharges at concentrations that could cause further impairment. *Ex. P-26; Killelea Testimony, Moore Testimony.*

[40]

In the prior version of the ISGP, approximately 80 facilities were subject to a benchmark for dissolved oxygen discharges to impaired water bodies. *Exs. P-5, P-25, P-27, P-30.* The benchmark was set at the water quality criteria for DO, which is expressed in terms of a relative standard that takes into account receiving water concentrations, uses of the water body at the point of discharge, the frequency/persistence of the measurements over time, and whether background levels of DO are due to natural versus human-caused conditions. *WAC 173-201A.* Yet the permit only required sampling of the industrial stormwater discharge at the point of discharge. *Ex. P-5.* Discharge sampling results could not be readily analyzed in the context of the other variables contained in the DO water quality criteria, and therefore provided no meaningful information about an industrial stormwater discharge's potential contribution to any violations of dissolved oxygen standards. *Moore Testimony.* The current ISGP omits a similar

benchmark for that group of industrial dischargers, as well as omitting any numeric effluent limitation for facilities that discharge to water bodies impaired for dissolved oxygen. Some of the 80 or so facilities that had been subject to a dissolved oxygen benchmark in the old permit are now subject to a new requirement to monitor against the COD and TSS benchmarks. For example, Weyerhaeuser had facilities that were previously required to monitor and report for dissolved oxygen when discharging to an impaired water body (e.g. Willapa River), but no longer has such a requirement. The facility does have an applicable COD and TSS benchmark, however. *Ex. W-3A; Johnson Testimony.*

[41]

PSA argues that Ecology could and should have derived an effluent limitation for DO, temperature, and contaminated fish tissue impairment. PSA asserts that industrial discharges, which contain substances which have a high oxygen demand, will negatively affect dissolved oxygen levels in impaired waters. PSA also asserts that the lack of a DO effluent limitation for the 80 facilities that used to have it represents impermissible backsliding. *Horner Testimony.*

[42]

Dissolved Oxygen: Ecology did not set a numeric effluent limitation for water bodies 303(d)-listed due to low dissolved oxygen primarily because low DO is a seasonal (summer) impairment problem, while stormwater discharges in Washington commonly occur from October through April. Also, industrial stormwater discharges do not typically involve low levels of DO in the discharge itself, but rather are more likely to contain pollutants that will affect DO levels in the receiving water at some later point. Low DO level in impaired water bodies is typically attributable to heavy loading of nutrients such as nitrogen or phosphorus that cause excessive

algae and plant growth, the decay of which depletes oxygen levels in the summer. Such low DO levels are also attributable to the presence of other wastewater or substances with a high biochemical oxygen demand (BOD). However, Ecology considers these kinds of pollutants to have a "far field" effect, meaning the demand for oxygen in the water does not occur close in time or physically close to where the effluent or runoff water is discharged, but further downstream and on a delayed timeframe. Thus, Ecology concluded that these temporal and spatial variables make it exceedingly difficult to correlate a particular stormwater discharge from an industrial facility to a low DO problem in a water body. Ecology concluded that intensive modeling would be necessary to make the correlation to support a connection between particular types of stormwater discharges and low DO in an impaired segment of a water body, distant from a discharge point. It was not practicable to do so, nor a cost effective effort given Ecology's determination that industrial stormwater discharges are not likely to be a significant contributor to low DO in most instances. For these same reasons, Ecology did not impose a DO limit on the 80 or so facilities that previously had been subject to such a benchmark. *Moore Testimony; Fact Sheet, pp. 49-51.*

[43]

Temperature: Setting a numeric effluent limitation for discharges to water bodies impaired for temperature presented Ecology similar challenges to that of dissolved oxygen. Ecology concluded that temperature is a seasonal water quality problem, and that stormwater discharges do not typically occur during the late summer months when temperature impaired water bodies are warmer and susceptible to thermal loading (discharge of heated water). Again,

the agency concluded it could not effectively derive a meaningful effluent limitation for temperature.

[44]

Impairment due to Contaminated Fish Tissue: Setting a numeric effluent limitation for discharges to water bodies impaired due to contaminated fish tissue, such as PCBs, mercury, DDT, or bioassessment (surveys of benthic invertebrate communities) presented a similar challenge to that of dissolved oxygen and temperature. Ecology concluded that it would be extremely difficult to identify a direct relationship or any correlation between stormwater discharges from an industrial facility and the contamination present in a fish or invertebrate community, sometimes far removed from that area. Again, Ecology concluded that it could not derive a science-based, defensible number to serve as a numeric effluent limitation for discharges to water bodies impaired for this parameter. *Moore Testimony.*

4. TMDLs

[45]

The ISGP requires Permittees to comply with applicable TMDL (total maximum daily load) determinations, which are essentially water clean-up plans that limit the amount of a particular pollutant that various contributing sources may discharge into the impaired water body. Where Ecology has established a TMDL wasteload allocation and sampling requirements for a permittee's discharge, the permittee is required to comply with "all requirements of the TMDL as listed in Appendix 5" to the permit. *Condition S6.D.2-7.* However, Appendix 5 states the Ecology has performed a review of TMDL documents and determined that "no facilities currently covered under the ISGP discharge to a water body with a TMDL wasteload allocation

for stormwater associated with industrial activity." Ecology then concludes that no facilities covered by the ISGP are subject to additional sampling or effluent limitations related to TMDLs. *Ex. B-1A (Appendix 5 to ISGP)*. Ecology testified that industrial facilities typically have not been given part of the wasteload allocation in the TMDL process because such facilities are generally a de minimis source of the pollutant of concern compared to the larger watershed, and the related difficulty of providing a particular discharge limitation for a specific industrial permittee. So, while the permit requires compliance with applicable TMDL determinations, there are none, at least at this time. *Killelea Testimony, Moore Testimony.*

[46]

PSA criticizes Ecology's conclusion that additional sampling and monitoring is not required because of the lack of connection between ISGP permittees and the waste load allocation in an impaired water body that is subject to a TMDL. PSA asserts that while there may be a recognition that stormwater discharges are of concern to the TMDL, without targeted sampling and monitoring to better define the stormwater contribution to the problem, it will remain difficult to develop a strategy to begin addressing it. Characterizing this as a "great flaw in Ecology's management of the state's water resources," PSA asks that the Board direct that the permit be amended to provide for setting waste load allocations tied to industrial stormwater discharges, or, at a minimum, require sampling to determine industrial stormwater contributions for the problem and/or if TMDLs are being met. *Horner Testimony.*

E. Compliance with Antidegradation Requirements

[47]

Discharges to surface waters associated with industrial activities under the ISGP are expected to degrade water quality, even if such discharges are in compliance with water quality standards. For this reason, there has been no dispute that the General Permit must comply with both water pollution control statutes and implementing regulations that prohibit degradation of state waters. *See* RCW 90.54.020(3); WAC 173-201A, Part III. When Ecology issued the General Permit, the agency had a choice to prepare either a "Tier II antidegradation analysis" for any new or expanded actions authorized under the ISGP, or, in the alternative, rely on an adaptive process authorized in the rules. *See* WAC 173-201A-320 (1)-(6). Ecology relied on the alternative, adaptive process in order to comply with the antidegradation rule. The question of whether this alternative process was adequate to comply with antidegradation requirements was put before the Board by PSA on summary judgment and a related request for a stay (Legal Issue No. 12). Although the Board denied the summary judgment motion, it concluded that Ecology had issued the ISGP without an alternative, adaptive process in place to "select, develop, adopt, and refine control practices for protecting water quality" as required by the antidegradation rule. WAC 173-201A-320(6)(iii). The Board issued a partial stay prohibiting Ecology from granting coverage under the ISGP for new or expanded actions until there was compliance with antidegradation requirements. This decision rested in part on the fact that Ecology had relied on the discontinued Guidance for Evaluating Emerging Stormwater Treatment Technologies, Technology Assessment Protocol-Ecology (TAPE) to satisfy Ecology's obligation under the antidegradation rule. The primary purpose of TAPE is to establish a testing protocol and process

for evaluating and reporting on the performance and appropriate uses of emerging stormwater treatment technologies. *Order Granting Partial Stay and Denying Summary Judgment (Legal Issue No. 12), July 30, 2010.*

[48]

Since issuance of the Stay by the Board in July 2010, the discontinued TAPE process has resumed through a Technical Resource Center managed by Washington State University and the City of Puyallup, with Ecology involvement. The protocol requires vendors or permittees to bring forward BMPs, typically a treatment BMP, and demonstrate that the new BMP is equivalent to those of the Stormwater Management Manuals issued by Ecology. A Board of Reviewers is in place to consider new ideas or technology. As these are approved, Ecology is poised to add the approved BMPs to the Stormwater Management Manuals (SWMMs) as it updates the Manuals. The next such update will occur in the next one to two years. Ecology does not, however, solicit or force reviews through the TAPE process—it is a market-driven process for enhancing BMPs. PSA criticizes the lack of opportunity for public comment on Ecology's antidegradation plan. Ecology contends that there is a public comment opportunity both through the granting of coverage to individual permittees, and as the ISGP itself is renewed on five year cycles. Ecology also contends that both the adaptive management scheme of the ISGP, and the permit renewal process offer the opportunity and incentive for new technology to emerge, consistent with antidegradation rules. *Ex. E-12; Killelea Testimony, Moore Testimony.*

F. Monitoring Requirements

[49]

As with the previous permit, the ISGP requires permittees to obtain representative samples on a quarterly basis, and from the first fall storm event of each year, at designated sampling locations. *Condition S4.* Instead of allowing permittees to identify and monitor the outfall with the highest concentration of pollutants, the new permit requires sampling of all discharge points (unless substantially identical under Condition S4.B.2.c.). Ecology chose this approach as technically superior in light of difficulties many permittees had in identifying appropriate sampling points under the previous permit, and because it is consistent with EPA's approach under the MSGP. Both the old permit and new permit allow averaging of samples on a quarterly basis. If a pemittee samples any pollutant at a designated sampling point more frequently than required by the permit, the permittee must include the results in both the calculation and data submitted on the Discharge Monitoring Report (DMR). *Condition S9.D.; Killelea Testimony.*

[50]

The consistent attainment provisions of the 2010 ISGP were controversial, with wide disagreement among stakeholders as to the appropriate number of samples needed to adequately characterize site-specific stormwater discharges for purposes of suspending further sampling. Ecology ultimately also chose to allow a facility to have the benefit of suspension of sampling after four quarters of meeting benchmark values (consistent attainment), rather than the eight quarters required under the previous version of the ISGP. This decision was based in part on Ecology's recognition that the new permit imposed a greatly reduced copper benchmark applied

across industrial sectors covered by the permit, as compared to the much higher copper benchmark that only applied to certain permittees under the previous version of the permit. It was also based on a desire to counterbalance the fact that the 2010 permit requires all discharge points to be monitored (unless substantially similar), rather than just one outfall as the previous permit required. Ecology's decision to reduce the number of samples from eight to four was not based on any scientific or technical analysis, although one briefing paper the agency received pointed out that seven samples are adequate to characterize a discharge. Ecology concluded that lowering the number of quarters necessary to qualify for a suspension of sampling under the consistent attainment provision would motivate facilities to achieve compliance, and thereby reduce permittees' sampling costs. In response to permittees' concerns about having to re-accumulate quarters of attainment under the new permit, the 2010 ISGP allows a facility to count attainment of the benchmarks under the prior permit towards the four quarters needed under the current version of the permit. Suspension of sampling based on consistent attainment is not applicable to sampling at facilities subject to numeric effluent limitations based on 303(d) listings, as set forth in Condition S5.C. This was a change from the previous permit, which made the consistent attainment provisions available to all discharges, including those into 303(d)-listed waters. *Exs. P-10, P-21*; *Killelea Testimony; Condition S9.D.*

[51]

PSA asserts the permit's monitoring provisions are inadequate in several respects. PSA first states that the new consistent attainment provision (Condition S4.B.6.a.), which allows suspension of sampling after four quarters, would lead to a substantial percentage of facilities exceeding the benchmarks on an ongoing basis. PSA supports this position based on Dr.

Horner's review of monitoring data from the previous version of the ISGP, which indicates that many facilities that achieved a benchmark for four consecutive sampling events later exceeded the benchmark in future quarters. Dr. Horner's own research also found that, for all parameters but one that he studied, discharges can be adequately characterized after about twelve samples. *Horner Testimony.* PSA also asserts that the permit provision that allows averaging of samples (Condition S4.B.6.c.) invites manipulation by permittees who may modify facility operations and/or sampling techniques to influence the average, a suggestion that one permittee, Weyerhaeuser, calls "inconceivable." *Johnson Testimony.* Finally PSA's expert opines that he would simply design "a thoroughly different program," including a requirement to take a minimum number of annual samples (10-12), and require analysis for dissolved as well as total recoverable metals. *Horner Testimony.*

G. Adaptive Management/Corrective Action Requirements

[52]

Boeing and PSA both criticize the three-level adaptive management/corrective action provisions of the ISGP contained at Condition S8., for different reasons. Boeing asserts the provisions are vague and arbitrary, for failing to define when a permittee can "off-ramp" from an endless series of unsuccessful attempts to meet the benchmarks. Boeing asserts that the ISGP lacks adequate guidance or definition of the "waiver" provisions of the Level 2 and Level 3 corrective action requirements, which offer the permittee a way to show they are not violating water quality standards even if they fail to meet benchmarks, among other purposes. Boeing argues that Ecology's position that a permittee must take continued steps to meet the benchmark values of the permit, through implementation of the corrective action levels, effectively turns

those benchmarks into numeric effluent limitations, an arbitrary result. Taking issue with a portion of the Board's ruling in one summary judgment order, Boeing asserts that facilities that have fully implemented BMPs described in Ecology's SWMMs as part of a Level 3 corrective action should not be expected to do more, and are by law, presumed to be compliant with water quality standards.[4]

PSA criticizes the Condition S8. provisions as vague or too loosely written, asserting that there are extended timeframes for completion of corrective actions, legally invalid bases for waivers, and unacceptably vague terms, such as footnote 4 to Condition S8., that appears to make it impossible for a permittee to ever move from a Level 2 to a Level 3 corrective action. PSA criticizes the calendar year system of the corrective action scheme, which allows a "reset" of benchmark exceedances for each year of the permit term. PSA complains that these provisions do not require the permittee to ever meet the benchmarks, or specify consequences if there is ongoing failure to do so after completion of prescribed corrective actions. PSA also contends the waiver provisions excuse compliance with water quality standards, and are therefore unlawful.

[53]

While the permit does not require mandatory compliance with benchmarks, it does require timely implementation of corrective actions with the goal of achieving benchmarks in future discharges. An exceedance of a benchmark value is not conclusive of a violation of water

[4] Boeing filed a Motion for Reconsideration of the Board's Order on Summary Judgment, dated January 5, 2011, (dismissing Legal Issues 31 and 62), and requested the opportunity to present factual evidence on questions related to the proper role of benchmarks and their relationship to the corrective action levels of the permit. The Board allowed Boeing to proceed to present testimony on this issue, but did not rule on the substance of the Motion. It is addressed in the Conclusions of Law that follow.

quality standards. However, sampling results that show exceedances of the benchmark values have the potential to violate, or may indicate a violation of, water quality standards. In reviewing the draft ISGP, EPA commented that despite significant concerns in the regulated community that the benchmarks of the ISGP were, in effect, numeric effluent limits, it was clear to EPA that Ecology was not intending benchmarks to be such numeric limits. EPA commented that like the MSGP, the benchmarks are intended to be used as an adaptive management mechanism, triggering revisions to the SWPPP, and adoption of additional control measures when benchmarks were exceeded. EPA notes that when a facility's monitoring data exceeds the benchmark levels, "the facility can be in full compliance with the permit as long as it follows all the corrective action and subsequent reporting steps." EPA recommended clarification in the permit on this point. *Ex. P-21.* Corrective actions responsive to such benchmark exceedances include revision of the SWPPP and implementation of additional BMPs, as prescribed at each corrective action level. In Ecology's professional judgment, if a facility properly implements the corrective actions required by the ISGP, it is likely to bring the facility's stormwater discharges to at or below the benchmark level. If the permittee does not timely and correctly implement the corrective action steps of the permit, or cannot meet the benchmark value after Level 3 corrective action steps, Ecology has the option of issuing an Administrative Order or an individual permit for discharges from a particular facility. The permittee can also request a waiver of the requirements under Level 2 and Level 3, as discussed further below. *Killelea Testimony.*

[54]

The three level corrective action provisions of Condition S8. of the ISGP set out a logical, increasingly stringent set of responses required of the permittee, should quarterly

samples reveal continued exceedances of applicable benchmark values. At a Level 1 corrective action, a permittee would be expected to make incremental improvement in the application of BMPs, such as more frequent vacuum sweeping, cleaning catch basins, or other housekeeping items. Similarly, the Level 2 response expects additional source control BMPs, while the Level 3 requires installation of necessary treatment BMPS. At Level 3, the permittee must revise the SWPPP, but with input and review of a licensed professional, which is intended to improve the quality of the response at this level of corrective action (Condition S8.D.2.). The permit states that Level 2 corrective actions are triggered by an exceedance of an applicable benchmark value for a single parameter for any two quarters during a calendar year, and that Level 3 corrective actions are triggered by an exceedance for any three quarter during a calendar year. Ecology interprets this to mean that the permittee must look back for an entire calendar year in order to determine whether it is at a Level 2 or Level 3 corrective action. Ecology intended that there be alternating years for corrective action efforts by permittees in order to allow adequate time for corrective actions to achieve their intended effect on discharges. Ecology also expects that a permittee at a Level 3 corrective action will achieve compliance with the benchmark, and that Ecology will be working with the permittee to evaluate the adequacy of the corrective action response. In this iterative process between the agency and permittee, a decision can be made whether an individual permit, more refined BMPs, or an administrative order are necessary. *Killelea Testimony.*

[55]

While the permit itself, as well as Ecology's explanation of the meaning of the terms, offers a rational escalation of corrective actions, the calendar year system of corrective actions is

confusing, and offers extended timeframes for implementing corrective actions required by the permit. The permit provides no deadline to initiate a response to a benchmark exceedence and no time limit for the required revision of the SWPPP, so it is unclear when the implementation steps begin. Once the SWPPP is revised, a permittee with two quarters of exceedances in one calendar year, say 2011, has until September 2012 to implement the revised SWPPP. If the facility then has three or more exceedances of a benchmark in 2012, it becomes unclear whether the facility has until September of the next year, 2013, to wait to see the effectiveness of the Level 2 response, or whether it must move to Level 3 if it has three more exceedences in 2013. This result is possible due to the language of footnote 4 to the Level 2 Corrective Action provision, which states that "[F]acilities that continue to exceed benchmarks after a Level 2 Corrective Action is triggered, but prior to the Level 2 Deadline, are not required to complete another Level 2 or 3 Corrective Action the following year for the same parameter." This could be read to mean that a Level 3 corrective action cannot be triggered until three years after the initial exceedances triggering the Level 2 response, even if a permittee consistently continues to exceed the benchmarks every quarter thereafter.

[56]

The waiver provisions of the 2010 ISGP are a critical aspect of the benchmark and adaptive management scheme of the ISGP. The waiver provisions allow a permittee to show that they do not need to proceed with a required Level 2 or Level 3 response by demonstrating that the installation of either structural source control or treatment BMPs "is not feasible or not necessary to prevent discharges that may cause or contribute to a violation of a water quality standard." *Condition S8.C.4. and D.4.* The previous permit included a similar waiver provision,

with the primary difference being that it required a permittee to demonstrate that the corrective action was both infeasible ***and*** not necessary for compliance with water quality standards. *Ex. P-5*. While the terms "feasible" and "necessary" are not defined in the permit (nor were they defined in the previous permit), they have commonly understood meanings in this context. Among other items, the waiver provisions allow a permittee to develop information to show they are in compliance with water quality standards, even if they have had one or more discharges that exceeded a permit benchmark. Ecology testified that a facility could base a waiver request on a showing that a particular benchmark was too high for specific site conditions, that the discharges did not cause or contribute to a water quality standards violation, or that water quality standards are otherwise being met at the site. Such a showing may require a site-specific analysis or receiving water study before the facility can show there is no need to implement either structural source control or treatment BMPs to avoid discharges that may cause or contribute to violation of water quality standards. While economic feasibility will not be allowed as a basis for a waiver from permit corrective action requirements, Ecology has identified other feasibility considerations that may form the basis for a valid waiver request, such as when a permittee operates at a leased facility and the lessor will not allow necessary alterations at the site. Weyerhaeuser testified it understood the kind of data it would need to qualify for a waiver under this term of the ISGP, and that it did not need additional guidance. Boeing criticizes the waivers as vague and uncertain in application. *Killelea Testimony, Johnson Testimony, Oleson Testimony*.

[57]

Ecology has provided some informal guidance as to how to apply the provisions of Condition S8. that allows "waivers" from the requirements for installing or implementing structural source control or treatment BMPs under the Level 2 and Level 3 corrective action provisions of the permit. Ecology has not finalized guidance for its own staff in applying this provision, in part because the agency does not expect any request for waivers until later in the permit cycle, and has time to develop further guidance. *Killelea Testimony.*

[58]

PSA is an organization that works to protect and preserve Puget Sound. Columbia Riverkeeper has a similar mission to protect and restore the Columbia River and its tributaries. Olympians for Public Accountability work for accountability of public agencies involved in toxic cleanup issues in the Olympia area. The Executive Director of PSA is a member of each of these organizations, and makes personal use of the recreational opportunities in the Puget Sound region. *Wilke Testimony.* No party has contested the standing of PSA and the other organizations to bring this appeal. Copper Groups presented no testimony regarding the standing of its organizations to bring this appeal. However, the standing of Copper Groups was raised as an issue for the first time in closing arguments.

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

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CONCLUSIONS OF LAW

A. Standard of Review

[1]

The Board has jurisdiction over the subject matter and parties pursuant to RCW 43.21B.110. The Board reviews the issues raised in an appeal *de novo*. WAC 371-08-485(1). The burden is on the appealing party as to each issue. WAC 371-08-485(3). Pursuant to WAC 371-080-540(2), in those cases where the Board determines that Ecology has issued a permit "that is invalid in any respect," the Board shall order the agency to reissue the permit, consistent with applicable statutes and guidelines. *PSA v. Ecology*, PCHB Nos. 07-022, 07-023 (February 2, 2009) (Phase II Municipal Stormwater Permit Decision).

[2]

RCW 90.48.260 authorizes Ecology to implement and enforce all programs necessary to comply with the Clean Water Act (CWA), 33 U.S.C. § 1251 *et seq.* Such powers include the authority to administer the NPDES permit program (Ch. 173-220 WAC) and to establish water quality standards for both surface water and groundwater (Ch. 173-201A and Ch. 173-200 WAC). The ISGP is required under both the CWA, and state law authority which requires a discharge permit for the disposal of any waste material into waters of the state by any type of commercial or industrial operation. 33 U.S.C. § 1342(p)(2)(B); RCW 90.48.160. The ISGP is also a State Waste Discharge Permit that operates to protect groundwater from stormwater discharged or infiltrated to groundwater under the authority of RCW Chapter 90.48. *Condition S1.E.*

[3]

The Pollution Control Hearings Board must provide due deference to the specialized knowledge and expertise of Ecology on technical issues and judgments. *Port of Seattle v. Pollution Control Hearings Board,* 151 Wn.2d 568, 595, 90 P.3d 659 (2004). In the appeal of the ISGP, the Board concludes that some of the terms of the ISGP are particularly technically complex, and required Ecology to consider and weigh complex science, and often competing expert opinions and views on the best approach to manage industrial stormwater. Accordingly, we give deference to Ecology on several of the most technical aspects of the unique terms of the ISGP. Similarly, Ecology's interpretations of water quality statutes and its own regulations are entitled to great weight, unless such interpretation conflicts with the statute's plain language. In several instances, we give deference to Ecology's interpretation of relevant regulations. *Port of Seattle* at 593-594.

[4]

Section 402(o)(1) of the CWA (33 U.S.C. § 1342(o)) states that an NPDES permit may not contain effluent limitations which are less stringent than the previous permit, with certain exceptions. In addition to challenging a number of permit terms as invalid or arbitrary, PSA has asserted that some conditions of the ISGP are less stringent, or represent impermissible backsliding in violation of the CWA. Ecology argued on summary judgment that if the Board were to find certain aspects of the ISGP less stringent, Ecology may still act to correct a "technical mistake" in the previous effluent limitation, under 33 U.S.C. § 1342(o)(2)(B)(ii). The Board addresses both the backsliding and other arguments about these permit terms in the following conclusions.

B. Framework of the ISGP

[5]

Boeing and PSA have each presented evidence and argued that the basic framework of the ISGP with its reliance on a combination of various effluent limitations, including both benchmarks and numeric effluent limitations for certain discharges, is invalid or arbitrary and capricious. Each Appellant makes related and different arguments that the adaptive management/corrective action scheme that drives compliance with benchmarks and water quality standards is also flawed and should be corrected by the Board. The Board therefore first addresses conclusions related to the permit's overall framework, then addresses challenges to individual terms and conditions of the permit.

[6]

The CWA and state law require Ecology to implement a program of control for industrial stormwater discharges that meets applicable water quality standards. 33 U.S.C. § 1311, § 1342(p)(3)(A); RCW 90.48.080. State surface water quality regulations also protect existing water quality and preserve designated beneficial uses of the surface waters, requiring discharge permits to be conditioned such that the discharge will not cause or contribute to a violation of established water quality standards. Ch. 173-201A WAC. The Board has consistently held in the context of other general permit appeals that NPDES permits must contain conditions to ensure that dischargers meet water quality standards. *Associated General Contractors v. Ecology*, PCHB Nos. 05-157, 158, 159 (2007), COL 4. To do this, general permits such as the ISGP currently establish a combination of narrative effluent limitations, benchmarks and numeric effluent limitations for various pollutant parameters. The permit establishes an adaptive

management/corrective action scheme that is the method to drive ultimate, and required, compliance with water quality standards. The role of benchmarks in this scheme is once again at issue in this case. In the context of the Construction Stormwater General Permit, we interpreted RCW 90.48.555(8), which requires an enforceable adaptive management mechanism in both the industrial and construction stormwater general permits, as follows: "A benchmark is not a numeric effluent limitation, even if it is stated in numeric terms. Exceedances of the benchmark are not permit violations. Rather, the benchmark is a threshold or indicator value. When that threshold is reached, a permittee must implement a responsive protocol…." *Id.* at COL 22.

[7]

To meet the requirements of the CWA and state law, the ISGP contains both technology-based and water quality-based effluent limitations, which are two different kinds of restrictions on the quantity, rate, and concentration of pollutants that are discharged in the stormwater from industrial facilities. The Clean Water Act requires that stormwater discharges from existing industrial facilities meet technology-based effluent limitations that reflect the technological and economic capability of permittees to control pollutants in discharges. 33 U.S.C. § 1342(a). They are also based on State law that requires the use of AKART. RCW 90.48.010. NPDES permits, including the ISGP, may express these effluent limitations as either numeric or, if numeric limits are considered "infeasible," non-numeric narrative standards, or as a combination of numeric and narrative effluent limitations. RCW 90.48.555(2); 40 C.F.R. § 122.44(k)(3). Because of the variable and intermittent nature of stormwater, both EPA and Ecology determined that it is not feasible to calculate numeric, technology-based effluent limitations for many of the discharges covered under the ISGP. Accordingly, Ecology included many non-numeric narrative

limitations in the permit. These technology-based effluent limits are reflected in those conditions of the ISGP, for example, that require implementation of a SWPPP, and implementation of best management practices to prevent and control stormwater runoff. *Condition S3.; Fact Sheet, pp. 38-42.*

[8]

RCW 90.48.555(1), and federal regulations at 40 CFR Part 122.44, require the ISGP include water quality-based effluent limitations if there is a reasonable potential to cause or contribute to an excursion of a state water quality standard. RCW 90.48.555(3) requires that Ecology condition the ISGP to require compliance with numeric effluent discharge limits where the department has determined that stormwater discharges have a reasonable potential to cause or contribute to violation of state water quality standards, and effluent limitations based on nonnumeric BMPs are not effective in achieving compliance with water quality standards. As we concluded in an earlier Order on Summary Judgment, Ecology made a determination that stormwater discharges from industrial facilities, on a general and ongoing basis, may cause, or have a reasonable potential to cause a violation of water quality standards for a variety of pollutant parameters. *Order on Summary Judgment, December 23, 2010; Killelea Testimony. Fact Sheet at 48.* We conclude that such a generalized "reasonable potential analysis" is appropriate in the context of a general permit, where, as here, there is significant background information about the nature of industrial and urban runoff, sufficient to inform Ecology's conclusions in this regard *(see, e.g., Ex. B-35, the 2006 EnviroVision/Herrera Evaluation)*. We also conclude that Ecology appropriately complied with these statutory and regulatory requirements by establishing several permit provisions, which are stated in both numeric and

narrative forms, as follows: numeric effluent limitations for discharges to 303(d)-listed water bodies at (Condition S6.C., Table 5); requirements for facilities to comply with TMDLs (Condition S6.D.); adaptive management response provisions, which require facilities that exceed numerically-stated benchmark values to implement escalating levels of source control and treatment BMPs (Conditions S5.A. and B., and S8.); prohibitions on discharges that violate listed water quality surface, groundwater, sediment standards, or human health-based criteria (Condition S10.); and finally, solid and liquid waste management provisions.(Condition S12.).

[9]

In addition to the requirements to develop effluent limitations in response to a reasonable potential analysis, RCW 90.58.555 (7) provides further, and specific direction to Ecology to require compliance with "appropriately derived numeric water quality-based effluent limitations for existing discharges to water bodies listed as impaired according to 33 U.S.C. Sec. 1313(d) (Sec. 303(d) of the federal clean water act, 33 U.S.C. Sec. 1251 et seq.)." The permit complies with this requirement by including numeric effluent limitations applicable to discharges to 303(d)-listed waters for a number of different parameters, including, TSS, fecal coliform, and others that are not in dispute in this case. *Condition S6., Table 5.* Whether such limitations are "appropriately derived," and whether additional numeric limitations should have been included, is addressed later in this opinion, the Board having ruled on summary judgment that there were questions of fact related to the specific limitations contained in Condition S6. *Order on Summary Judgment, December 23, 2010.*

[10]

RCW 90 48.555 (8) requires the ISGP to include "an enforceable adaptive management mechanism that includes appropriate monitoring, evaluation, and reporting." At a minimum, the adaptive management mechanisms must include an indicator, such as *monitoring benchmarks*, monitoring, review and revisions to stormwater pollution prevention plans, documentation of remedial actions taken, and reporting to Ecology. RCW 90.48.555(8)(a)(i)-(v) *(emphasis added).* The adaptive management/corrective action scheme of the ISGP (Condition S8.) goes hand-in-hand with the benchmark provisions of the permit, and together they form a key narrative effluent limitation for the ISGP, requiring industrial facilities to take steps to ensure compliance with water quality standards.

[11]

In the remand of the 2005 Boatyard General Permit, the Board ordered that the permit be modified to require implementation of remedial actions required at the three corrective action levels set out in that permit. The Board stated that the permit must "explicitly require that permittees must continue implementing required remedial actions unless and until the benchmarks and other limits are achieved," and further required the permit to address the contingency that implementation of all BMPs and corrective actions might fail to achieve the benchmarks. Ecology was directed to include provisions specifying that the agency may require individual, site-specific conditions, such as additional BMPs, numeric limits, or compliance schedules, or an individual NPDES permit. While the Board did not construe the benchmark as a numeric effluent limitation, or nonattainment of a benchmark as a permit violation, the Board nonetheless required Ecology to modify the permit to specify further actions Ecology would take

in response to continued failure of a permittee to achieve the benchmark. *PSA v. Northwest Marine Trade Association*, PCHB Nos. 05-150, 05-151, 06-034, 06-040, at pp. 65-66 January 26, 2007.

[12]

We see no reason to depart from these decisions at this time. The Board concludes that the ISGP's combination of benchmarks that trigger an adaptive management response, narrative effluent limitations, and numeric effluent limitations for defined parameters applicable to discharges to 303(d)-listed waters, is a valid and lawful framework for regulating industrial stormwater discharges at this time. This framework correctly implements specific provisions of RCW 90.48.555, discussed above, and complies with the Clean Water Act, even if we find specific provisions invalid in some respect. Subject to the more detailed discussion below of specific benchmark, numeric limits, and other permit issues, the Board rejects PSA's assertion that the ISGP framework is inadequate and should be based on more extensive numeric effluent limitations. We also reject Boeing assertion that the permit framework should have more flexible benchmarks, or that it is premature to establish such benchmarks due to lack of adequate data.

C. Validity of Benchmarks

[13]

The Board concludes that none of the Appellants have met their burden to demonstrate that the copper and zinc benchmarks of the ISGP are invalid, arbitrary and capricious, or in violation of applicable law. The Board concludes that Ecology developed a rational method to reach a reasonable and achievable benchmark for copper. As the level of professional

disagreement indicates, there is considerable room for debate about the appropriate benchmark level for copper, and the precise levels at which the benchmark will protect beneficial uses, or become overly burdensome or overly protective of receiving waters.

[14]

We conclude that the copper benchmark was set in consideration of both the effects on beneficial uses in the receiving water, and in particular, the effects on salmonid fish, as it should have been. At the same time, Ecology concluded that in order to meet the benchmarks of the permit, a facility would have to be implementing AKART. Ecology also applied the dilution factor of 5 in a manner distinct from methods used in some other permitting contexts, using it as a method to inform the agency as to the probability of violating water quality standards, should the benchmark for copper be set at varying levels. In this respect, Ecology used the dilution factor, not to justify artificially high benchmarks, but rather to assess the effectiveness of the benchmark value, from both the perspective of protection of beneficial uses and the ability of industrial facilities to meet the benchmark. We conclude that consideration of the effects of receiving water dilution and chemistry on the toxicity of discharges in the manner accomplished by the Herrera report is not equivalent to granting a mixing zone under WAC 173-201A-400. In this case, the dilution factor was not used to allow a violation of water quality standards in an area of the receiving water. Instead, the Herrera analysis recognized some dilution would occur in receiving water, and provided Ecology data to assess at what level a benchmark would be protective of beneficial uses in the vast majority of conditions. This is a valid and lawful approach.

[15]

We also conclude that Ecology was not required to use either the biotic ligand model (BLM), or a water effects ratio (WER) in setting the copper benchmark. Neither of these approaches is consistent with the current water quality standards of Washington, implemented at WAC 173-201A. While the BLM may be the approach of the future, particularly as a new basis to set the copper criteria in state water quality standards (as opposed to at the permit stage), it has yet to be adopted in Washington, or any other state, and state water quality regulations for copper remain hardness-based. Ecology correctly relied on existing water quality standard methodologies to formulate the copper benchmark, as did the Herrera analysis that provided the foundation for Ecology's decision on the copper benchmark.

[16]

It was neither an abuse of discretion nor arbitrary and capricious for Ecology to decline to apply a WER in the development of the copper benchmark. Not only is the use of a WER generally limited to site-specific application, EPA has put limits on Ecology's use of a WER to modify the water quality standards for particular water bodies or discharges. Ecology's interpretation of the water quality standards, including the limits placed thereon by EPA, is entitled to great weight, and we give deference to Ecology's interpretation of WAC 173-201A-240 (footnote dd) and how to apply it in the context of a general permit. The Board also distinguishes the facts and conclusions here from those before the Board in the appeal of the 2005 Boatyard General Permit. *PSA v. Northwest Marine Trade Assc., supra.* In that case the Board held that the methodology used to establish the copper benchmark relied on several flawed and unfounded factors to establish a benchmark that was many times higher than the water

quality criteria for copper, and invalidated the copper benchmark. The Board concluded that although Ecology had not applied required prerequisites to the use of a WER, Appellant PSA had not presented adequate evidence that the WER values that Ecology had relied were not representative of western Washington waters. Since that time, EPA has put further limits on the use of the WER to adjust water quality criteria. Thus, while the Board's conclusion allowed a limited use of a WER in the Boatyard General Permit to account for the mitigation effects of receiving water quality on the toxicity of metals in stormwater discharges, the case does not stand for as broad a proposition as advanced by Copper Groups. We conclude that Ecology more correctly accounted for the effects of receiving water chemistry on copper through the analysis contained in the Herrera report.

[17]

The Board concludes that the new COD and TSS benchmarks for the timber and paper industry and paper and allied products industries are valid, and supported in relevant science and literature. There was little dispute that COD itself is the more accurate measure of oxygen demanding substances in the water, and even PSA's expert had no quarrel that COD was the preferable benchmark parameter, not BOD. We also conclude that the COD benchmark value (120 mg/l) is not less demanding than the lower BOD benchmark of the previous permit (30 mg/l). Relevant studies and site specific sampling results demonstrate that a COD benchmark that is four times higher than the BOD benchmark offers equivalent protection to receiving waters. With the addition of a second benchmark for TSS (100 mg/l), we conclude that this industrial sector is subject to more stringent permit requirements with this iteration of the ISGP. The ISGP does not represent backsliding in this respect, as argued by PSA.

[18]

The Board concludes that the new benchmark of "no visible oil sheen" is a valid benchmark, and does not represent backsliding from the prior permit's numerically stated benchmark of 15mg/l for oil and grease. The Board is satisfied that Ecology has valid, well-based reasons to change to a benchmark based on "no visible sheen," and has improved the permit over the last iteration by adding a second, related benchmark of for TPH for certain higher risk industries. *Condition S5.A. (Table 3).*

D. Numeric Effluent Limitations for Discharges to 303(d)-Listed Waters

[19]

RCW 90.48.555(7) addresses effluent limitations for existing discharges to water bodies listed as impaired under the CWA. It states as follows:

> (7)(a) By November 1, 2009, the department shall modify or reissue the industrial storm water general permit *to require compliance with appropriately derived numeric water quality-based effluent limitations for existing discharges to water bodies listed as impaired* according to 33 U.S.C. Sec. 1313(d) (Sec. 303(d) of the federal clean water act, 33 U.S.C. Sec. 1251 et seq.).
>
> > (b) The industrial storm water general permit must require permittees to comply with appropriately derived numeric water quality-based effluent limitations in the permit, as described in (a) of this subsection, by no later than six months after the effective date of the modified or reissued industrial storm water general permit.

On summary judgment, the Board concluded that RCW 90.48.555(7) clearly and unambiguously requires Ecology to include in the ISGP "appropriately derived" numeric water quality-based effluent limitations for discharges to 303(d)-listed water bodies. The Board noted that the statutory requirement of sub-section (7) embodies the assumption that impaired water bodies do not meet water quality standards, and that further discharges will continue to

contribute to such impairment. We held there were factual questions as to whether or not Ecology could appropriately derive such limitations with respect to several pollutants that are associated with impaired water bodies. Boeing and PSA challenge different aspects of the effluent limitations applicable to discharges to 303(d)-listed waters. Boeing asserts the fecal coliform bacteria limit and the TSS limit are invalid, for different reasons. PSA argues that Ecology violated RCW 90.48.555(7) by excluding effluent limitations for dissolved oxygen, temperature, and fish tissue/bioassay, as many water bodies are listed as impaired for these parameters.

[20]

The Board concludes that the TSS effluent limitation applicable to discharges to 303(d)-listed waters is valid and was appropriately derived under RCW 90.48.555(7). In arriving at this limitation, Ecology evaluated several options to address the likelihood that discharges from industrial sites lead to violation of sediment quality standards and recontamination of sites already being addressed under the Toxics Clean-up Program. The effluent standard selected, at 30 mg/L is not an unreasonable standard, nor does it impose inordinately high costs on the regulated community, as did other options considered and rejected by Ecology. We give deference to Ecology's conclusion that TSS is a reasonable surrogate to regulate discharges to water bodies that are 303(d)-listed for sediment quality parameters, allowing an effective way to begin to control sediment contamination problems identified by Ecology.

[21]

Boeing has not met its burden to demonstrate that the fecal coliform bacteria effluent limitation for discharges to 303(d)-listed water bodies is invalid. Ecology developed this

limitation because many segments of water bodies have been listed as impaired for fecal coliform. Because Ecology could "appropriately derive" an effluent limitation based on existing water quality criteria, and it is an easily applied standard, the numeric effluent limitation is required under RCW 90.48.555(7). Other than disagreeing with the need to monitor for this parameter, no persuasive evidence was offered to show that the fecal coliform effluent limitation could not be "appropriately derived" or was otherwise unsupportable.

[22]

The Board concludes that Ecology did not err in omitting numeric effluent limitations for discharges to water bodies impaired due to temperature, dissolved oxygen and fish tissue contamination or bioassessement. Ecology was unable to "appropriately derive" such limitations as called for in the statute because in each case, the agency could not reasonably correlate the discharge from an industrial facility with the impairment or water quality problem. Because of this, Ecology lacked a science-based method to define a fair or rational numeric effluent limitation with respect to each of these parameters. With respect to dissolved oxygen and temperature, Ecology could not come up with a defensible effluent limitation number because it is not the stormwater discharge itself causing the impairment in the water body. In the case of dissolved oxygen, it is the oxygen-demanding substances that cause the DO impairment, and setting dissolved oxygen effluent limitation fails to address the impairment problem. It was also reasonable for Ecology to conclude that it made little sense to set an effluent limitation for temperature, on the basis that it is a seasonal impairment problem, and again, a problem that could not be correlated with industrial stormwater discharges. Setting an effluent limitation under such circumstances would not be based in any supportable science. Ecology was also

unable to defensibly tie industrial stormwater discharges to pollutants that bioaccumulate in fish tissue, again supporting the decision to omit numeric limits for this parameter. In the face of this evidence, we conclude that Ecology met the requirements of RCW 90.48.555(7), as the agency could not, at this time, "appropriately derive" numeric water quality-based effluent limitations for these three types of industrial discharges to impaired water bodies.

[23]

As discussed above with respect to the omission of a DO effluent limitation, the Board also concludes that it was neither invalid, nor impermissible backsliding, for Ecology to not include a DO benchmark for the same 80 facilities that had such a benchmark in the previous permit. Some unspecified number of these same facilities will be subject to the new COD and TSS benchmarks. Elimination of the DO benchmark on the basis discussed in the findings of fact, that it is a nearly irrelevant measure of the actual problem in the water body, is a legitimate basis upon which to modify the ISGP on a going-forward basis. A permit is not made less stringent by elimination of a condition that provided no meaningful information about impairment or water quality in receiving waters.

[24]

The Board concludes that the manner in which Ecology addressed TMDLs in the permit is valid. At this point in time, no industrial facilities covered by the ISGP are subject to additional sampling or effluent limitations related to TMDLs, in large part because these facilities are viewed as a small, de minimis source of the pollution contributing to the impaired state of the water body and the need for a TMDL. As with temperature and DO, Ecology faces substantial difficulty in defining a particular pollutant discharge limitation for a specific

industrial discharge. PSA's case on this issue is primarily one of a criticism of water resource policy approach by Ecology, and not something the Board believes can be addressed in the context of the challenge to a General Permit. Indeed, it would be inappropriate for the Board to direct Ecology to set a wasteload allocation in relation to a TMDL as part of a remedy in an appeal of a general permit, and we have no basis to do so.

E. Compliance with Antidegradation Requirements

[25]

As the Board discussed on summary judgment, the purposes of Washington's Antidegradation Policy, as set forth in WAC 173-201A Part III, are several. First, the policy seeks to maintain and restore the highest possible quality of surface waters in the State. The policy also describes situations under which water quality may be lowered from its current condition. The policy applies to human activities that are likely to lower the water quality of surface water and ensures that such activities apply AKART. To achieve these ends, the policy applies three "tiers" of protection for surface waters. WAC 173-201A-300. Tier I applies water quality-based limitations to point source discharges. Tier II seeks to protect waters of higher quality than the water quality standards by requiring a more detailed analysis (the Tier II analysis) for any new or expanded actions that are expected to cause a measureable change in the quality of the water body. Tier III prevents the degradation of waters formally listed as "outstanding resource waters" and applies to all sources of pollution. At issue in this case is compliance with the Tier II analysis requirements.

[26]

The rule governing the Tier II analysis requirements allows an alternative method of compliance for general permits, where those permits have a formal adaptive process "to select, develop, adopt, and refine control practices for protecting water quality." The adaptive process must ensure that information is developed and used expeditiously to revise permit or program requirements. Among other requirements, the plan under this section must be developed and documented in advance of permit or program approval. WAC 173-201A-320(6)(c)(i)-(iii). The relevant portion of the rule provides as follows:

> c) The department recognizes that many water quality protection programs and their associated control technologies are in a continual state of improvement and development. As a result, information regarding the existence, effectiveness, or costs of control practices for reducing pollution and meeting the water quality standards may be incomplete. *In these instances, the antidegradation requirements of this section can be considered met for general permits and programs that have a formal process to select, develop, adopt, and refine control practices for protecting water quality and meeting the intent of this section.* This adaptive process must:
>
> (i) Ensure that information is developed and used expeditiously to revise permit or program requirements;
>
> (ii) Review and refine management and control programs in cycles not to exceed five years or the period of permit reissuance; and
>
> (iii) Include a plan that describes how information will be obtained and used to ensure full compliance with this chapter. *The plan must be developed and documented in advance of permit or program approval under this section.*

WAC 173-201A-320(6) *(emphasis added).*

[27]

On summary judgment, the Board concluded that PSA had shown a likelihood of success on the merits on the question of whether Ecology had complied with antidegradation rules at the time of issuance of the ISGP. The Board reached this conclusion because at the time Ecology issued the ISGP, there was no adaptive process in place as required by the antidegradation rule. WAC 173-201A-320(6)(iii). The TAPE process, referred to in the permit's Fact Sheet as the basis for compliance, had been discontinued by Ecology. Although planning may have begun for a transition to a new TAPE process, the record before the Board on summary judgment indicated that it was not currently operational. The Board also expressed substantial concerns as to whether the TAPE process, even if it were in place, had results or outcomes that were "used expeditiously" to revise this, or future, iterations of the General Permit, as the rule requires. The Board concluded that Ecology had failed to meet its burden in response to PSA's motion. The Board entered a stay which prohibited Ecology from granting coverage under the ISGP for new or expanded actions until there was compliance with Tier II antidegradation requirements. The matter was set over for hearing, to allow Ecology to demonstrate it had come into compliance with the antidegradation rule.

[28]

At hearing Ecology contended that it had complied with the antidegradation rule, and the alternative process allowed for general permits, in three ways. First, Ecology has resumed the TAPE process, which encourages development of pilot or emerging technologies. Second, the adaptive management scheme of the ISGP allows assessment of existing and developing BMPs. Third, Ecology regularly updates the agency's Stormwater Management Manual to capture these

new and developing BMPs, making them more widely available to the regulated community. Ecology also asserts that the public comment aspects of the antidegradation regulation have been met, not just by the initial opportunity to comment on the draft ISGP, which relied on TAPE and described the adaptive management permit scheme, but also as coverage is granted to any facility with a new or expanded operation.

[29]

After hearing on the merits, the Board concludes that Ecology has complied with the Tier II antidegradation requirements, and that the previously issued Stay should be dissolved. In 2009, after discontinuance of the TAPE program, the Legislature directed Ecology to create a Stormwater Technical Resource Center to provide tools for stormwater management, as funding becomes available. RCW 90.48.545. Initial funding has allowed this effort to proceed through TAPE, and the process described in the original Fact Sheet and public notice has resumed after an initial delay. We also give deference to Ecology's interpretation of WAC 173-201A-320(6) and how it should be applied in the context of general permits. It is reasonable and valid for Ecology to conclude that this rule allows the adaptive management scheme of the permit, combined with regular updates of the SWMM which capture new and emerging technologies, to stand as the method to comply with antidegradation requirements in the general permit context.

F. Monitoring and Sampling Provisions

[30]

The Board concludes that the general sampling requirements of the ISGP are valid, both with respect to the amount of required sampling, and the provisions that allow averaging of such samples. The quarterly sampling regime now requires sampling of all discharge points, unless

they are substantially identical, an improvement over the approach of the last permit, which allowed the permittee to monitor the outfall with the highest concentration of pollutants, an uncertain endeavor when it comes to variable stormwater discharges. We also conclude that the sampling provision that allows permittees monitoring more than once per quarter to average all the monitoring results for each parameter to be valid. *Condition S4.B.6.c.* PSA's argument that this averaging provision will invite manipulation is not well-founded, because those permittees who take advantage of the sample averaging provision must provide Ecology the results of both the averaging calculation and documentation related to all samples taken. *Condition S9.D.* Moreover, should a given facility wish to ignore the requirements of the permit in favor of manipulation of sampling results, a speculative proposition at best, Ecology could take enforcement action. However, the remote possibility of such behavior on the part of a rogue facility does not render the permit's sampling scheme invalid.

[31]

We conclude the consistent attainment provision of Condition S4.B.6., which allows a permittee to suspend sampling after four consecutive quarters of sampling demonstrate a reported value equal to or less than the benchmark value is invalid, and appears to have been somewhat arbitrarily selected by Ecology. Although the consistent attainment provision is not applicable to sampling at facilities subject to numeric effluent limitations for discharges to 303(d)-listed waters, the last permit required a full eight quarters of sampling of applicable parameters before a permittee could take advantage of this provision. Ecology's decision to reduce the number of quarters necessary to achieve consistent attainment is not based on any data, nor on an underlying assessment of how many compliant sampling periods are reasonably

predictive of future attainment of benchmarks. Ecology recognized this in the Fact Sheet for the draft permit (p. 70), concluding "four samples are not sufficient to adequately characterize the discharge from a facility," while an internal briefing paper stated that seven samples are adequate. Some limited evidence before the Board suggests a relatively large percentage of facilities will again exceed benchmarks after a period of four quarters of attainment of benchmarks for particular pollutant parameters (*Horner Testimony)*. Given the variable nature of stormwater, allowing a suspension of sampling for the remainder of a five year permit term based on only four quarters does not appear to be designed to achieve compliance with benchmarks, and may lead to violations of water quality standards. While the Board concludes that it is reasonable to "carry forward" quarters of attainment of benchmarks from the prior permit period and count those toward consistent attainment under the current permit, we conclude that at least seven quarters of meeting benchmark values should be expected prior to a suspension of sampling for the remainder of the permit term. Alternatively, the permit could allow a fewer number of quarters to serve as the basis for a determination of consistent attainment (such as four quarters), but require a resumption of sampling within a reasonable time frame within this permit term (two to three years appears reasonable, given the five year permit cycle). We leave it to Ecology's discretion which of these two approaches will work best in the application of the ISGP. We remand the consistent attainment provision of S4B.6. to Ecology for amendment consistent with this opinion.

G. Adaptive Management/Corrective Action Provisions

[32]

The Board concludes that portions of Condition S8. lack elements necessary for true adaptive management as required by RCW 90.48.555(8) and present unduly vague and confusing terms that result in unreasonable delays and questionable enforceability. We therefore conclude that Condition S8. is invalid in several respects explained below and remand this aspect of the permit to Ecology for modification consistent with this opinion. First, we conclude the permit must include a reasonably short time frame within which a permittee must initiate an investigation of a benchmark exceedence and revise its SWPPP accordingly, a step currently missing from the permit. With such a timeframe in place, it is then reasonable for the permit to require a permittee to "fully implement" the revised SWPPP "as soon as possible." We also conclude that the deadline for implementation of a Level 2 corrective action (September 30 of the following calendar year) is excessively long and must be shortened. As currently written, the timeframe provides a permittee up to one and one half years of the five year permit cycle to implement a Level 2 corrective action, depending on when during the calendar year the benchmark exceedences occur. When read in conjunction with footnote 4 (ISGP, p. 35), the permit's current language would allow a permittee to register as many as ten benchmark exceedences over a period of three years without ever triggering a Level 3 response.[5] In the absence of any evidence that structural source control BMPs typically require this long to

[5] Y1: two exceedences in the first two quarters, but none in 3Q or 4Q; Y2: permittee implements the Level 2 response by September 30, but has four additional exceedences during this year, which do not trigger either another Level 2 or a Level 3 response per footnote 4; Y3: permittee continues to exceed the benchmark each quarter, but is "not required to complete another Level 2 or Level 3 Corrective Action *the following year* for the same parameter." ISGP, Footnote 4, p. 35 (emphasis added).

implement, become effective, and be evaluated, this timeframe is unreasonably long. We conclude that footnote 4 must be eliminated and that the permit must clarify when and how a permittee escalates from a Level 2 to a Level 3 when a Level 2 corrective action is already underway.

[33]

The Board concludes that the waiver provisions of Condition S8. are valid. Although Ecology has not yet issued guidance on how to apply this provision, the terms of the permit are commonly used words, capable of application by the regulated community. Ecology has testified that the term "feasibility" under the waiver provisions will not include "economic feasibility" to excuse a permittee's compliance with the corrective action provisions due to the cost of structural or treatment BMPs. The weight of evidence before the Board demonstrates that waivers will be most useful where a permittee is able to demonstrate that its discharges do not cause or contribute to a violation of water quality standards, or that water quality standards are otherwise being met, even though the permittee does not meet a benchmark specified in the permit. Given the use of the terms, and their likely application, we find the waiver sections adequately clear and valid.

[34]

On summary judgment, the Board held that where a permittee continues to exceed benchmark values, it must install BMPs beyond those described in Ecology's SWMMs. We noted that the ISGP requires site-specific, professionally engineered solutions to ongoing exceedances of benchmarks, at the Level 3 corrective action time. *ConditonS8.D.2.* BMPs "demonstrably equivalent" to those of the SWMM may also be required, and emerging

technologies, not yet in the SWMM, may also be available to a facility at a Level 3 corrective action. We stated that the requirement to implement these additional BMPs would be triggered when a permittee was at a Level 3 corrective action, "presumably based on data or other site-specific information that demonstrates continued inability to meet the benchmarks, and the possibility of discharges that cause or contribute to a violation of water quality standards." The Board's holding on summary judgment makes clear that site-specific solutions are called for by Condition S8. of the ISGP, and may be beyond those BMPs described in the SWMM. Such steps are, however, part of the adaptive management response of the permit. Those requirements are triggered by sampling that demonstrates continued exceedances of benchmark values. Boeing disagrees with the Board's conclusion, and asked the Board to reconsider and allow evidence on this question. The Board did allow evidence, but the evidence presented at hearing does not change our conclusion.

[35]

RCW 90.48.555(6) affords industrial permittees a "presumption of compliance" with water quality standards when the permittee is in full compliance with *all permit conditions*, *<u>and</u> fully implementing stormwater best management practices* contained in stormwater technical manuals approved by Ecology (or demonstrably equivalent practices) (emphasis added). RCW 90.48.555(6)(b). Boeing has argued that so long as it is implementing Ecology's stormwater management manuals, and BMPs described therein, it is entitled to this presumption of compliance with water quality standards, and need not take further corrective action steps, even if it is not meeting benchmarks. Boeing asserts that discharge monitoring data or sampling results that demonstrate a failure to meet the benchmark are not indicative of a violation of water

quality standards and do not negate the presumption of compliance. Boeing argues that the benchmarks themselves are not accurate measurements of water quality, and expecting on-going efforts to comply with the benchmarks converts them into numeric effluent limitations. Boeing appears to be stating that the Board's ruling on summary judgment is tantamount to a holding that a failure to meet the benchmarks is equivalent to a violation of water quality standards. Boeing argues that ISGP benchmarks, if interpreted in this manner, are arbitrary and capricious.

[36]

Boeing misconstrues both the Board's ruling on summary judgment, and the manner in which the presumption of compliance stated at RCW 90.48.555(6) must be applied. As we have repeatedly stated, while an exceedance of a benchmark is not, in and of itself, a violation of a water quality standard, the benchmarks are indicator values--values that are predictive of potential, or actual, water quality violations. *PSA v. Northwest Marine Trade Assc.; Association of General Contractors v. Ecology, supra.* A failure to meet benchmarks requires a permittee to make continued efforts to improve application and performance of BMPs. The statutory "presumption of compliance" requires a permittee to comply with "all permit conditions," including those that require increasing levels of corrective actions to meet the benchmark values. This calls for professional level involvement in the modification of the SWPPP, and implementation of new or site-specific BMPs. *Condition S8.D.2.b.* The permittee may have to pursue industry specific responses to meet benchmarks.

If, in the course of the adaptive management process, the permittee has AKART in place and has implemented a Level 3 response but continues to not meet the benchmarks, the ISGP offers two paths. The first option is to seek a waiver, and to demonstrate that installation of

additional BMPs is not feasible or not necessary to prevent discharges that may cause of contribute to violations of water quality standards. The second option is to take further steps to attain the benchmark or, alternatively, bring a facility into compliance with water quality standards as the case may be. Ecology may require this second option through the issuance of an administrative order.

The adaptive management process envisioned by the permit is iterative, and does not necessarily anticipate the kind of definitive cut-off point Boeing appears to seek. The permittee is ultimately required to comply with water quality standards, both under the law, and under the terms of the ISGP. *Condition S10.* To work as an effective adaptive management process, however, Condition S8. requires further refinement. This Board has previously recognized that, to be valid, an adaptive management program in a general permit requires a meaningful mechanism for feedback, to allow evaluation of the effectiveness of the measures and to make any necessary changes in response to such results in order to achieve the desired goal. *Puget Soundkeeper Alliance v. Ecology*, PCHB Nos. 07-021, 07-026 through 07-030, 07-037 (Phase I) and 07-022 & 07-023 (Phase II), Findings of Fact, Conclusions of Law, and Order, (2008) (Municipal Stormwater General Permit, Condition S4., Phase I and Phase II). Quarterly discharge monitoring reports may be sufficient feedback in some circumstances, particularly with Level 1 and Level 2 actions, but they are likely inadequate in more complex situations such as Level 3 treatment BMPs. *Id.* at COL 22. Ecology's lead permit writer has explained that at a Level 3 corrective action, Ecology and the permittee will be engaged in an iterative exchange and evaluation of BMPs, to bring the facility to compliance with benchmarks. We conclude that Condition S8.D. (Level Three Corrective Actions) of the ISGP should also require the use of

monitoring, assessment, or evaluation information as a basis on which Ecology and the permittee may determine whether further modification of the BMPs or additional BMPs are necessary to meet the goal of achieving the applicable benchmark values in future discharges. This information should be included in a permittee's summary of its Level 3 Corrective Actions (planned or taken) submitted in its Annual Report. In this manner, the permit will correctly state the adaptive management process expected of permittees.

When a permittee is taking all the steps required by the adaptive management process, as modified by this opinion, or is *in fact* meeting benchmarks of the permit, then the permittee is entitled to the presumption of compliance provided by the statute. This interpretation does not convert the benchmarks into numeric effluent limitations. Rather, it implements the adaptive management response that is called for by both state and federal law.

[37]

The Board concludes that PSA, and the groups associated with PSA have standing to bring this appeal. The Board concludes that any challenge to the standing of Copper Groups was waived, and cannot be raised for the first time in closing argument, thereby depriving Copper Groups of the opportunity to present evidence at hearing as to their standing to bring this appeal.

[38]

We conclude that issues not addressed by this Order, including those related to transportation facilities (Issues No. 14, 16), and those related to office buildings and parking facilities (Issues No. 19, 20) have been abandoned, as no evidence was presented to the Board on these issues. They are dismissed.

ORDER

A. The Board concludes that the majority of provisions of the 2010 Industrial Stormwater General Permit are valid and lawful. Pursuant to WAC 371-08-540, we remand the following limited aspects of the permit to Ecology for modifications.

1. Ecology shall modify Condition S4.B.6., the "Consistent Attainment" provision consistent with the alternatives discussed in this opinion.
2. Ecology shall modify the provisions of Condition S8., "Corrective Actions" consistent with this opinion.

B. The previously entered STAY related to compliance with Antidegradation requirements is VACATED.

C. Having allowed the presentation of evidence on Legal Issues No. 31 and 62, as requested by Boeing, the Board DENIES the motion to Reconsider its January 5, 2011 Order on Summary Judgment addressing these issues.

DONE this 25th day of April, 2011.

POLLUTION CONTROL HEARINGS BOARD
KATHLEEN D. MIX, Presiding
SEE CONCURRENCE
WILLIAM H. LYNCH, Member
ANDREA McNAMARA DOYLE, Chair

COPPER DEVELOMENT ET AL. v. ECOLOGY ET AL.
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APPENDIX A
(to Findings of Fact, Conclusions of Law, and Order)

5. Does the issuance of the general permit violate the total maximum daily load (TMDL) requirements of the federal and state Clean Water Acts by authorizing a discharge by a new source into 303(d) listed waters?

6. Are the Permit's monitoring, application and reporting requirements consistent with federal and state law requirements?

7. Are the Permit's effluent limitations consistent with federal and state law requirements?

8. Does the permit lack All Known and Reasonable Technologies?

9. Are the Permit's adaptive management requirements (corrective actions) inconsistent with state law?

10. If the Board does have jurisdiction to consider this appeal, are Ecology's provisions for modifications of the permit arbitrary and capricious?

11. Is the permit consistent with the requirements for general industrial stormwater permits under RCW 90.48.555?

12. In its development of the permit, has Ecology violated the requirements of the anti-degradation policy, WAC 173-201A, Part III?

13. Is the permit consistent with the regulations and procedural requirements for issuing a NPDES and general permit, including chapters 173-201A, 173-204, 173-220 and 173-226 WAC?

14. Are the permit coverage requirements for transportation facilities in Condition S1.A.1, Table 1, arbitrary, capricious, or otherwise unlawful?

16. Is S1.A.1 invalid in its omission of a coverage requirement for transportation facilities that have material handling facilities?

19. Is Condition S.1.C.4 of the permit invalid by failing to adequately define what facilities used for office buildings and administrative parking lots are exempt from permit coverage?

20. Should Condition S.1.C.4 exempt all parking lots from coverage under the permit where stormwater does not commingle with stormwater from areas associated with industrial activities?

34. Are the provisions of S4 concerning monitoring arbitrary and capricious or otherwise invalid?

35. Are the provisions of S4.B concerning sampling timing requirements invalid?

42. Are the copper benchmarks in Condition S5.A of the permit arbitrary and capricious, not based on substantial evidence and otherwise unreasonable and unlawful?

43. Does the ability to grant site-specific waivers or permit modifications cure the alleged legal defects associated with the copper benchmarks in Condition S5.A of the permit?

45. Are the provisions of S5.A concerning the oil benchmark and accompanying monitoring requirements invalid?

49. Are the provisions of S5.B.5 concerning benchmarks for the timber and paper products industries invalid?

50. Are the provisions of S5.D.1 concerning conditionally authorized stormwater discharges invalid?

51. Are the provisions of S6.C concerning compliance schedules for effluent limitations for discharges to 303(d)-listed waters invalid, in that no provision is made to ensure satisfaction of the requirements of WAC 173-226-180 regarding interim requirements and reporting?

52. Is the permit's omission and/or limited application of numeric water quality-based effluent limitations for discharges to some categories of 303(d)-listed water bodies inconsistent with the requirements of RCW 90.48.555 or otherwise invalid?

53. Are the provisions of S6.D concerning discharges to water bodies with TMDLs invalid?

54. Is Condition S.6.C of the permit arbitrary and capricious or otherwise invalid by requiring monitoring and compliance with a TSS effluent limitation as a surrogate for a 303(d) listing based on a sediment quality parameter?

55. Is Condition S.6.C of the permit arbitrary and capricious or invalid by requiring monitoring and compliance with a fecal coliform effluent limitation by all SIC codes covered under the permit?

56. Do the numeric effluent limits applicable to discharges into Section 303(d) listed water bodies in Condition S6.C, Table 5, violate RCW 90.48.555?

(West) Are the additional sampling requirements of Table 5 adequate to ensure protection of impaired bodies of water?

58. Are the provisions of S8 concerning timelines and triggers for corrective actions arbitrary and capricious or otherwise invalid?

59. Are the provisions of S8 concerning waivers from the requirements of Level 2 and Level 3 responses arbitrary and capricious or otherwise invalid?

60. Are the provisions of S8.D concerning the requirements for treatment BMPs invalid?

64. Are Conditions S8.C.4 and S8.D.4 of the permit invalid by failing to define when it may be unnecessary to achieve a benchmark?

65. Are Conditions S8.C.4, S8.D.4 and S10 of the permit invalid by requiring a demonstration as to the feasibility and necessity for additional BMPs?

APPENDIX C

FEDERAL REGISTER

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Part II

Environmental Protection Agency

40 CFR Parts 136, 260, et al.
Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures; Final Rule

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 136, 260, 423, 430, and 435

[EPA–HQ–OW–2010–0192; FRL–9664–6]

RIN 2040–AF09

Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act; Analysis and Sampling Procedures

AGENCY: Environmental Protection Agency (EPA).

ACTION: Final rule.

SUMMARY: This rule modifies the testing procedures approved for analysis and sampling under the Clean Water Act. EPA proposed these changes for public comment on September 23, 2010. The changes adopted in this final rule fall into the following categories: New and revised EPA methods and new and revised methods published by voluntary consensus standard bodies (VCSB), such as ASTM International and the Standard Methods Committee; updated versions of currently approved methods; methods reviewed under the alternate test procedures (ATP) program; clarifications to the process for EPA approval for use of alternate procedures for nationwide and Regional use; minimum quality control requirements to improve consistency across method versions; corrections to previously approved methods; and revisions to sample collection, preservation, and holding time requirements. Finally, EPA makes changes to three effluent guideline regulations.

DATES: This regulation is effective on June 18, 2012. The incorporation by reference of these methods is approved by the Director of the Federal Register on June 18, 2012. For judicial review purposes, this final rule is promulgated as of 1:00 p.m. (Eastern time) on June 1, 2012 as provided at 40 CFR 23.2 and 23.7.

ADDRESSES: EPA has established a docket for this action under Docket ID No. EPA–HQ–OW–2010–0192. All documents in the docket are listed on the *http://www.regulations.gov* Web site. Although listed in the index, some information is not publically available, *e.g.,* CBI or other information whose disclosure is restricted by statute. Certain other materials, such as copyrighted material, are not placed on the Internet and will be publicly available only in hard copy form. Publicly available docket materials are available either electronically through *http://www.regulations.gov* or in hard copy at the HQ Water Docket Center, EPA/DC, EPA West, Room 3334, 1301 Constitution Ave. NW., Washington, DC. The Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Public Reading Room is 202–566–1744, and the telephone number is 202–566–2426 for the HQ Water Docket.

FOR FURTHER INFORMATION CONTACT: For information regarding the changes to inorganic chemical methods, contact Lemuel Walker, Engineering and Analysis Division (4303T), USEPA Office of Science and Technology, 1200 Pennsylvania Ave. NW., Washington, DC 20460, 202–566–1077 (email: *walker.lemuel@epa.gov*). For information regarding the changes to organic chemical methods, contact Maria Gomez-Taylor, Engineering and Analysis Division (4303T), USEPA Office of Science and Technology, 1200 Pennsylvania Ave. NW., Washington, DC 20460, 202–566–1005 (email: *gomez-taylor.maria@epa.gov*). For information regarding the changes to microbiological and whole effluent toxicity methods, contact Robin Oshiro, Engineering and Analysis Division (4303T), USEPA Office of Science and Technology, 1200 Pennsylvania Ave. NW., Washington, DC 20460, 202–566–1075 (email: *oshiro.robin@epa.gov*).

SUPPLEMENTARY INFORMATION:

A. General Information

1. Does this action apply to me?

EPA Regions, as well as States, Territories and Tribes authorized to implement the National Pollutant Discharge Elimination System (NPDES) program, issue permits with conditions designed to ensure compliance with the technology-based and water quality-based requirements of the Clean Water Act (CWA). These permits may include restrictions on the quantity of pollutants that may be discharged as well as pollutant measurement and reporting requirements. If EPA has approved a test procedure for analysis of a specific pollutant, the NPDES permittee must use an approved test procedure (or an approved alternate test procedure if specified by the permitting authority) for the specific pollutant when measuring the required waste constituent. Similarly, if EPA has established sampling requirements, measurements taken under an NPDES permit must comply with these requirements. Therefore, entities with NPDES permits will potentially be affected by the actions in this rulemaking. Categories and entities that may potentially be affected by the requirements of today's rule include:

Category	Examples of potentially affected entities
State, Territorial, and Indian Tribal Governments.	States, Territories, and Tribes authorized to administer the NPDES permitting program; States, Territories, and Tribes providing certification under Clean Water Act section 401; State, Territorial, and Indian Tribal owned facilities that must conduct monitoring to comply with NPDES permits.
Industry	Facilities that must conduct monitoring to comply with NPDES permits.
Municipalities	POTWs or other municipality owned facilities that must conduct monitoring to comply with NPDES permits.

This table is not intended to be exhaustive, but rather provides a guide for readers regarding entities likely to be affected by this action. This table lists types of entities that EPA is now aware of that could potentially be affected by this action. Other types of entities not listed in the table could also be affected. To determine whether your facility is affected by this action, you should carefully examine the applicability language at 40 CFR 122.1 (NPDES purpose and scope), 40 CFR 136.1 (NPDES permits and CWA) and 40 CFR 403.1 (Pretreatment standards purpose and applicability). If you have questions regarding the applicability of this action to a particular entity, consult the appropriate person listed in the preceding **FOR FURTHER INFORMATION CONTACT** section.

B. What process governs judicial review of this rule?

Under Section 509(b)(1) of the Clean Water Act (CWA), judicial review of today's CWA rule may be obtained by filing a petition for review in a United States Circuit Court of Appeals within 120 days from the date of promulgation of this rule. For judicial review purposes, this final rule is promulgated as of 1 p.m. (Eastern time) on June 1, 2012 as provided at 40 CFR 23.2. The

III. Changes Between the Proposed Rule and the Final Rule

Except as noted below, the content of the final rule is the same as that of the proposed rule.

A. EPA Is Not Adding EPA Method 1614A

The Agency proposed to add Method 1614A, "Brominated Diphenyl Ethers in Water, Soil, Sediment, and Tissue by HRGC/HRMS." EPA developed this method to determine 49 polybrominated diphenyl ether (PBDE) congeners in aqueous, solid, tissue, and multi-phase matrices. This method uses isotope dilution and internal standard high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS). The commenters were divided on whether EPA should approve this method. Two commenters stated that Method 1614A would be a valuable addition to the list of approved methods, while two other commenters stated that the method has not been sufficiently validated for use in Clean Water Act programs. Upon further evaluation of the data supporting the use of this test procedure and the peer review comments, EPA agrees with those commenters who stated that additional validation data are needed to fully characterize the performance of this method for various matrices and has decided not to include Method 1614A in today's final rule.

B. Deferral of Action on EPA Method 1668C

The Agency proposed to add EPA Method 1668C, "Chlorinated Biphenyl Congeners in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS." This method measures individual chlorinated biphenyl congeners in environmental samples by isotope dilution and internal standard high resolution gas chromatography/high resolution mass spectrometry (HRGC/HRMS). As discussed in the proposal, Part 136 methods for chlorinated biphenyls (PCBs) only measure a mixture of congeners in seven Aroclors—PCB–1016, PCB–1221, PCB–1232, PCB–1242, PCB–1248, PCB–1254, and PCB–1260, while Method 1668C can measure the 209 PCB congeners in these mixtures.

EPA began development of this method in 1995, initially covering 13 congeners labeled "toxic" by the World Health Organization. In 1999, EPA expanded the scope of the method to include all 209 PCB congeners. The method has been used to support several studies, including the 2001 National Sewage Sludge Survey and the National Lake Fish Tissue Survey. Since 1999, EPA has revised the method to incorporate additional information and data collected such as the results of an inter-laboratory validation study, peer reviews of the method and the validation study data, additional QC performance criteria and MDL data, and user experiences. In the development and subsequent multi-laboratory validation of this method, EPA evaluated method performance characteristics, such as selectivity, calibration, bias, precision, quantitation and detection limits. The Agency is aware that this method is being used in some states in their regulatory programs and by other groups for some projects with good success. For example, in a study of data comparability between two laboratories on samples collected from the Passaic River in New Jersey, in which 151 PCB congeners were identified and measured, accuracy, as measured by analysis of an NIST SRM, was 15% or better. Recoveries of the PCB congeners ranged from 90% to 124% and averaged 105%; precision ranged from 4.2 to 23% (Passaic River 2010). This type of data shows that recoveries and precision for this method are within the performance achievable with other approved methods.

EPA received comments from thirty-five individuals or organizations on this method. Of these commenters, five (three states, one laboratory, and one laboratory organization) supported the approval of this method. Some states indicated that they are already requiring this method for use in permits and for other purposes. On the other hand, industry and industry groups/associations were critical of the method for various reasons. Commenters opposing the method provided a detailed critique of the method, the inter-laboratory study, the peer reviews and the other supporting documentation. Among the criticisms of the inter-laboratory study, commenters argued that: (1) EPA did not produce documentation supporting changes to the method approved by EPA for the interlaboratory study, (2) the raw data for wastewater and biosolids was poor and is not fit for use in a comprehensive interlaboratory study, (3) EPA cited certain guidelines such as ASTM but deviated from those guidelines (*e.g.*, used only one Youden pair per matrix), (4) the peer reviewers' qualifications were questioned, (5) the addendum and the pooled MDLs/MLs were not subjected to peer review, (6) MDL/ML are flawed, the process to calculate MDLs/MLs for congeners that co-elute was flawed, the MDL/ML ignored the ubiquitous problem of background contamination, and (7) the validation study did not include all matrices in the method (soil and sediment excluded). In addition, some commenters also suggested that EPA should first promulgate new detection and quantitation procedures. Further, commenters raised questions about possible adverse effects of this new method on compliance monitoring as well as concerns about data reporting and costs.

EPA is still evaluating the large number of public comments and intends to make a determination on the approval of this method at a later date. In the meantime, the Agency has decided to go forward with the promulgation of the other proposed analytical methods to expedite their implementation by the regulated community and laboratories. This decision does not negate the merits of this method for the determination of PCB congeners in regulatory programs or for other purposes when analyses are performed by an experienced laboratory.

C. EPA Is Not Adding ASTM Methods D7574–09 and D7485–09

In today's rule, EPA is not adding two proposed ASTM methods, ASTM D7574–09 "Standard Test Method for Determination of Bisphenol A (BPA)," and ASTM D7485–09 "Standard Test Method for Determination of NP, OP, NP1EO, and NP2EO." These two methods involve liquid chromatography and tandem mass spectrometry (LC/MS/MS). The methods have been tested by a single laboratory in several environmental waters, and may be useful for many applications. However, EPA has decided to postpone approval of these two methods for general use until completion of a full inter-laboratory validation study designed to fully characterize the performance of these methods across multiple laboratories and matrices.

D. Revisions and Clarifications to EPA Method 200.7

EPA Method 200.5 "Determination of Trace Elements in Drinking Water by Axially Viewed Inductively Coupled Plasma—Atomic Emission Spectrometry" employs a plasma torch viewed in the axial orientation to measure chemical elements (metals). As stated earlier in today's rule, EPA is adding Method 200.5 for some metals in Table IB. Both Methods 200.5 and 200.7 are acceptable methods under Part 136 and both methods employ ICP/AES technology. However, Method 200.5 includes performance data for the axial configuration that is not in Method 200.7 because the axial technology torch