EARTHJUSTICE

ALASKA CALIFORNIA FLORIDA MID-PACIFIC NORTHEAST NORTHERN ROCKIES
NORTHWEST ROCKY MOUNTAIN WASHINGTON, DC INTERNATIONAL

July 9, 2010

Ms. Sherri Greenup
Mr. Azizullah Mahar
Department of Ecology
Southwest Regional Office
P.O. Box 47775
Olympia, WA 98504-7775

Re: TransAlta Centralia Generation, L.L.C. proposed NPDES Permit
Permit No. WA0001546

Dear Ms. Greenup and Mr. Mahar:

These comments on the proposed National Pollutant Discharge Elimination System ("NPDES") permit for TransAlta Centralia Generation, L.L.C. ("TransAlta")[1] are submitted by Earthjustice on behalf of the Sierra Club and Northwest Environmental Defense Center (the "Conservation Organizations"). The Sierra Club is a national organization with more than 60 chapters, including the Cascade Chapter located in Seattle, Washington. The Cascade Chapter's membership resides and recreates throughout the state. Sierra Club is devoted to the study and protection of the earth's ecological resources, including rivers and streams. An important part of Sierra Club's current work at both the national and chapter level, is its Beyond Coal campaign which, among other things, focuses on environmental and public health problems associated with old coal-fired power plants like the TransAlta plant located in Centralia, Washington. Northwest Environmental Defense Center ("NEDC") is a regional organization based in Portland, Oregon. NEDC works to protect the environment and natural resources of the Pacific Northwest. NEDC is regularly involved in efforts to maintain or enhance the water quality of the Pacific Northwest, by serving as a watchdog over Oregon's Department of Environmental Quality, Washington's Department of Ecology, and each state's respective permitting processes.

[1] There appears to be a clerical error in that the draft permit identifies the facility as TransAlta Generation L.L.C. with an address of Big Hanaford road in Centralia, Washington. The fact sheet identifies TransAlta Centralia Generation L.L.C. at the same address. Earthjustice uses the TransAlta Centralia Generation L.L.C. name as we believe that is in fact the correct corporate entity for the coal plant. Please make sure the permit has the correct name for the permittee, or advise if there are in fact two corporate entities operating the coal-plant facility in Centralia.

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INTRODUCTION AND SUMMARY OF COMMENTS AND OBJECTIONS

The Conservation Organizations object to issuance of the NPDES permit as proposed (the "Permit") because it fails to meet the requirements of the Clean Water Act. As set forth below:

(1) the Permit does not meet the requirements of the Clean Water Act because it does not require Best Available Treatment ("BAT") technology for pollutants in TransAlta's wastewater in accordance with a recent study and Guidance of the U.S. Environmental Protection Agency ("EPA") regarding wastewater from coal-fired electrical generation facilities;

(2) the Permit does not require application of all known and reasonable technologies for the elimination and control of pollutants in TransAlta's wastewater ("AKART");

(3) the Permit does not meet the requirements of 40 C.F.R. §§ 122.44(d) and 131.10(g) in that it fails to include requirements necessary to meet water quality standards and/or results in an improper variance from water quality standards;

(4) the Permit appears to violate the Clean Water Act's antibacksliding requirements for chlorine; and

(5) the Permit does not comply with antidegradation requirements.

APPLICABLE LEGAL REQUIREMENTS

The Clean Water Act's ("CWA") goal is to eliminate all discharges of pollution into navigable waters. 33 U.S.C. § 1251(a)(1). No pollutant may be discharged from any point source without an NPDES permit. 33 U.S.C. §§ 1311(a) and 1342(a). The NPDES permit program is an integral part of the CWA's plan to eliminate pollution discharges, and to restore and maintain the health and integrity of the nation's waters. 33 U.S.C. § 1342. The CWA and EPA regulations seek to ensure that the goals are met by imposing a number of requirements through NPDES permits.

A. Technology Requirements.

First, all discharges of pollutants must be eliminated or controlled with application of the Best Available Technology ("BAT") in the NPDES permit. 33 U.S.C. §§ 1311(a)(1) and 1342(a)(1). In accordance with the CWA's goal to eliminate all discharges of pollutants, BAT limits "shall require the elimination of discharges of all pollutants if the Administrator finds, on the basis of information available to him. . . that such elimination is technologically and economically achievable. . ." 33 U.S.C. § 1311(b)(2)(A).

When EPA sets national effluent limitation guidelines, those guidelines are the floor—the minimum level of control that must be imposed in an NPDES permit. Where EPA has not set effluent limitation guidelines for a pollutant or source or particular activity, or where such guidelines are inadequate, a state permitting agency must promulgate permit effluent limitations, in accordance with BAT, on a case-by-base basis. 40 C.F.R.§ 125.3(c)(2) and (3). See also Texas Oil & Gas Ass'n v. EPA, 161 F.3d 923, 928-29 (5th Cir. 1998). In doing so, the state agency is bound by the same factors that EPA is required to apply in determining and applying BAT limits in a permit. See 33. U.S.C. §§ 1342(b) and 1311(b). See also Natural Res. Def. Council v. EPA, 859 F.2d 156, 183 (D.C. Cir. 1988). Those factors are: the production process in use and the possibility of changing processes; the non-water-quality impacts of controlling pollution; the age of equipment; the costs of pollution control; and the engineering aspects of various control techniques. 22 U.S.C. § 1314(b)(2)(B) and 40 C.F.R. § 125.3(d)(3). In applying the factors, the agency must consider the best state of the art practices in the industry, again to ensure the goals of the CWA are met. "Congress intended these [BAT] limitations to be based on the performance of the single best-performing plant in an industrial field." Chem. Mfrs. Ass'n v. EPA, 870 F.2d 177, 226 (5th Cir. 1989); Texas Oil & Gas Ass'n v. EPA, 161 F.3d at 927. See also, Am. Frozen Food Inst. v. Train, 539 F.2d 107, 132 (D.C. Cir. 1976).

A technology is considered available where there is or has been practicable use within an industry. In fact, courts have held that even where "no plant in a given industry has adopted a pollution control device which could be installed does not mean that the device is not 'available'", thus ensuring that industry cannot game the system by all agreeing to not adopt the latest, best pollution control technology. Hooker Chems. & Plastics Corp. v. Train, 537 F.2d 620, 636 (2d Cir. 1976). A discharger of pollutants may also be required to transfer a particular technology that has been used in another context where the transfer is practicable. See e.g. Reynolds Metals Co. v. EPA, 760 F.2d 549, 562 (4th Cir. 1985); Tanner's Council of Am. v. Train, 540 F.2d 1188, 1192 (4th Cir. 1976).

With respect to economic considerations, a technology is "economically achievable" under the BAT standard if it is affordable for the best-run facility within an industry. "BAT should represent 'a commitment of the maximum resources economically possible to the ultimate goal of eliminating all polluting discharges.'" Natural Res. Def. Council v. EPA, 863 F.2d 1420, 1426 (9th Cir. 1988) [citations omitted]. See also EPA v. Nat'l Crushed Stone, 449 U.S. 64, 74 (1980) (if a discharge of pollutants can afford the best available technology, then it must meet, and should not be allowed a variance from, stringent BAT limits.)

Under Washington law, pollutant discharges must be controlled by all known and reasonable technologies ("AKART"). RCW 90.48.520 and WAC 173-220-130(1)(a). AKART "shall represent the most current methodology that can be reasonably required for preventing, controlling, or abating the pollutants associated with a discharge." Puget Soundkeeper Alliance v. Dep't of Ecology, 102 Wash. App. 783, 792, 9 P.2d 892 (Wash. App. Div. 1 2000).

B. Water Quality Requirements.

Second, after application of the most stringent treatment technologies, if a discharge causes or contributes, or has the reasonable potential to cause or contribute to a violation of water quality standards, the permitting agency must also include any limits in the NPDES permits necessary to ensure that water quality standards are maintained and not violated. 40 C.F.R. § 122.44(d).[2] In addition, under Washington law, the agency must apply any more stringent limitation, after the application of BAT and AKART, necessary to meet water quality standards and necessary to meet an applicable Total Maximum Daily Load. WAC 173-220-130(1)(b). This obligation includes compliance with narrative, as well as numeric, water quality standards. 40 C.F.R. § 122.44(d)(1). The obligation is plain: "the permit *must* contain effluent limits" for any pollutant for which the state determines there is a reasonable potential for the pollutant to cause or contribute to a violation. 40 C.F.R. § 122.44(d)(1)(iii). See also, e.g., American Paper Inst. v. U.S. Envtl. Protection Agency, 996 F.2d 346, 350 (D.C. Cir. 1993); American Iron and Steel Inst. v. EPA, 115 F.3d 979, 992 (D.C. Cir. 1997); Waterkeeper Alliance, Inc. v. EPA, 399 F.3d 486, 502 (2d. Cir. 2005).

C. Antidegradation Requirements.

The CWA and EPA regulation, again in furtherance of the goals of the CWA to maintain, the integrity of our waters, requires states to have and implement an antidegradation policy. The policy is to ensure that, even after application of stringent treatment technologies and ensuring that a discharge does not violate or contribute to the violation of water quality standards, waters are not polluted "up to" a water quality standard (i.e. discharges should not use all the assimilative capacity of waters) by virtue of incremental changes over time. The antidegradation requirement is an ongoing requirement which must be examined, considered, and complied with each time a permitting agency renews a permit or issues a new permit.[3]

All existing uses of all waters must be maintained and protected. For waters that exceed quality levels necessary to support fish, wildlife and human contact, that cleaner level of quality shall be maintained and protected absent a finding, after public process, that allowing a lower quality is necessary to accommodate important economic or social development and only after the state has ensured that the highest statutory and regulatory requirements are employed. Finally, for outstanding national resource waters, the most pristine level of water quality must be maintained and no degradation allowed. 40 C.F.R. § 131.12. See also 33 U.S.C. § 1313(d)(4)(B) and WAC 173-201A-300 to 330.

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[2] These limits are generally referred to as Water Quality Based Effluent Limits ("WQBELs").

[3] For an excellent overview and description of how all these pieces of the CWA work together to ensure the CWA's goals, see the court's discussion in Columbus & Franklin Cty. Metro. Park Dist. v. Shank, 65 Ohio St. 3d 86, 96-99, 600 N.E.2d 1042 (1992).

As noted by the court in Shank "[t]he requirements of the Federal Clean Water Act are comprehensive and interconnected." Shank, 65 Ohio St. 3d at 100. An NPDES permit must comply with all three moving parts with the ultimate consideration being the preservation and restoration of the water and the elimination of discharges of pollutants wherever possible.

D. Antibacksliding.

In order to ensure that progress is continually made toward the goals of restoring and protecting the integrity of our nation's waters, the CWA requires that effluent limits in permits not be relaxed at the time of renewal or amendment of a permit. 33 U.S.C. § 1342(o) provides that a permit may not, upon renewal, reissuance or amendment, include less stringent effluent limits than the comparable effluent limit in the previous permit or version of the permit.

E. Mixing Zone Requirements.

EPA and the state have in some instances allowed the use of mixing zones.[4] Mixing zones may, subject to EPA approval, be used in a permit but only under certain prescribed conditions. 40 C.F.R. § 131.13. See also Section 5, USEPA Water Quality Standards Handbook: Second Edition, EPA 823-B-94-005a, Office of Water (updated July 2007). Careful consideration must be given to the appropriateness of mixing zones when a discharge includes bioaccumulative or persistent pollutants. Id., Section 5.1.4. A permitting agency must also consider whether a mixing zone is appropriate if a waterbody serves as a pathway for migrating and/or spawning anadromous fish. Id., Section 5.1.1. Concentrations above the chronic criteria must also be avoided, with particular concern for benthic and territorial organisms. Id.

Before a discharger may be authorized to employ a mixing zone, the discharger must fully apply AKART. Water quality criteria shall not be violated outside the boundary of the mixing zone and the size of the zone and concentration of pollutants in it must be minimized. WAC 173-201A-400(2), (5) and (6). Any mixing zone in a river or stream shall comply with the most restrictive of the following characteristics: it shall not extend in a downstream direction greater than three hundred feet plus the depth of the water, or extend upstream for a distance of more than one hundred feet; shall not utilize greater than 25% of the flow; and shall not occupy more than 25% of the width of the water body. WAC 173-201A-400(7).

RECENT EPA STUDY AND GUIDANCE REGARDING BAT FOR COAL-FIRED POWER PLANT FACILITIES

In October of 2009, EPA completed a study of wastewater discharges from the steam

[4] The Conservation Organizations object generally to the use and allowance of mixing zones believing them to be unlawful under the CWA and inconsistent with its goals and requirements. Without waiving that objection, the Conservation Organizations include this discussion of the federal and state regulatory requirements for the use of mixing zones.

electric power generating industry. In sum, EPA determined that its existing effluent limitation guidelines were inadequate in that they failed to address all waste streams from power plants and failed to apply BAT to the waste streams and pollutants they did address. In particular, EPA expressed concern with flue gas desulfurization ("FGD") wastewater, ash disposal, and with metals and other toxic pollutants such as mercury, selenium, copper, chromium, arsenic, and ammonia. See generally "Steam Electric Power Generating Point Source Category: Final Detailed Study Report", EPA 821-R-09-008 (October 2009).[5] ("Final Study"). EPA's Final Study also surveyed treatment systems in use at a number of plants throughout the U.S. and abroad. While many steam electric power plants utilize settling ponds as their only method of addressing wastewater, some plants were employing better, more effective treatment technologies ranging from chemical precipitation treatments to biological treatments to no-discharge evaporation or distillation systems. See Section 4.4 of Final Study. The Final Study also identified technologies currently under investigation that show promise such as iron cementation, sorption media, and ion exchange. Section 4.4.7, Final Study.

Finally, the Final Study notes the significant environmental and safety problems that have resulted from ash handling practices at steam electric power facilities. Bottom ash transport water contributes a separate set of problem pollutants and when mixed with other waste streams such as coal pile runoff, dissolution of metals in the ash water can be exacerbated, increasing the presence of dissolved metals in a plant's discharge. Chapter 5, Final Study. Ultimately, EPA concludes that new effluent limitation guidelines are necessary for steam power plants.

Based upon the Final Study and conclusions therein, EPA published Guidance on June 7, 2010 for the EPA regions and state permitting agencies. It is to serve as interim guidance while EPA develops new effluent limitation guidelines for wastewater discharges from FGD systems and coal combustion residual impoundments. Copy of June 2010 Guidance enclosed with comment letter. In the June 2010 Guidance, EPA warns that existing effluent limitation guidelines are inadequate and for some waste streams and pollutants, nonexistent. Therefore, states should develop BAT for all waste streams from power plants on a case-by-case basis. In its June 2010 Guidance EPA finds that:

> [f]or metals present in both soluble and particulate forms (such as mercury), the settling pond will not effectively remove the dissolved fraction. Technologies more advanced than settling ponds are available and more effective at removing both soluble and particulate forms of metals, and for removing other pollutants such as nitrogen compounds and total dissolved solids. Therefore, although each permit is case-specific, EPA expects as a general matter that settling ponds are unlikely to represent the BAT for

[5] This Report is widely-available on-line and is voluminous. See http://www.epa.gov/guide/steam/finalreport.pdf. Therefore, Conservation Organizations do not provide a copy of the report with these comments, but they do consider the Report part of the administrative record for this Permit. Should Ecology require Conservation Organizations to provide one, Ecology should immediately notify the Conservation Organizations.

> control of pollutants in FGD wastewater, given that more effective treatment technologies have been demonstrated to reduce pollutants in FGD wastewater.

June 2010 Guidance, Attachment A, pp. 3-4.

The June 2010 Guidance then outlines various practices that should be considered for BAT. The guidance notes that while plants employing both hydroxide and sulfide precipitation to facilitate settling and removal of pollutants have had some success with some metals and mercury, the combined physical/chemical treatment systems are not effective at removing selenium, nitrogen compounds, and certain other metals that contribute to high concentrations of dissolved solids in FGD wastewater. Id. at p. 4. Therefore, EPA finds that the addition of biological treatment systems, after the physical and chemical system, is more effective for the removal of mercury, arsenic, other metals, and in particular, selenium. EPA also notes that four power plants operate their treatment system with the biological stage optimized for nitrogen removal. Id. The June 2010 Guidance also notes that one U.S. plant and several in Europe are using vapor-compression evaporation to produce a concentrated wastewater stream and a reusable distillate stream, commonly referred to as "zero liquid discharge." Id. at p. 5. Finally, the June 2010 Guidance encourages permitting agencies to consider the potential need for permits to include effluent limits and monitoring requirements on the internal FGD waste stream to ensure effective control of the pollutants in FGD wastewater. Id.

PROPOSED PERMIT

A. Waste Streams.

The proposed Permit and Fact Sheet disclose that several waste streams make up TransAlta's wastewater discharge covered by this Permit. See pages 6-10 Fact Sheet. Included in those waste streams is circulating water cooling tower blowdown, units 1 and 2 boiler drains, cooling tower basin drains, bottom ash system surge tank overflows, coal pile runoff, and FGD wastewater. Id. It appears that TransAlta, for the industrial (as opposed to sanitary effluent) wastewater uses settling ponds. Some flocculation is used, but it is unclear from the Fact Sheet to which wastes, exactly, the chemical treatment is applied. It appears to be only to the coal pile runoff. There is no apparent case-by-case analysis of BAT demonstrated in the Permit, Fact Sheet, or file for this Permit. The Fact Sheet discloses application of the old, existing BAT effluent limitation guidelines for cooling tower blowdown only. Fact Sheet, pp. 15-16. It also appears that Ecology has not assessed/applied AKART for the industrial process wastewater.

B. Waterbodies Affected.

TransAlta discharges these wastes to Hanaford Creek at Outfall 001. The discharge is approximately ½ to ¾ mile from the confluence of Hanaford Creek and the Skookumchuck

River. The Skookumchuck is a tributary of the Chehalis River.[6] According to the Washington Department of Fish and Wildlife's website, Hanaford Creek has a winter steelhead run and the Skookumchuck has fall Chinook and chum salmon runs.

C. Pollutants.

There are a variety of pollutants in TransAlta's discharge to Outfall 001 of this Permit as well as temperature limitations. Some of them are conventional pollutants and, consistent with EPA's Final Study, many of the pollutants are priority pollutants of concern such as mercury, selenium, copper, chromium, lead, and arsenic. The Fact Sheet also identifies sulfates. TransAlta has recorded violations of Permit conditions for BOD, TSS, and chlorine during the previous 5 years.[7] Correspondence in the file appears to indicate that TransAlta blames these violations, for the most part, on algae growth in its pond system. While that may be the cause, it does not excuse the violations. There is no discussion in the Fact Sheet or file of how these violations will be avoided in the future (one of the BOD violations was June of 2009).

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[6] A sibling company, TransAlta Centralia Mining, L.L.C. is the permittee on two other NPDES permits related to the facility in Centralia, Washington. Permit No. 0040215 covers discharges from a new landfill TransAlta has created in an existing coal mine pit. The landfill appears to accept fly and bottom ash from the coal-plant steam generation operation. In its first year, the landfill has had problems complying with its NPDES Permit requirements. Permit No. 0037338 covers non-continuous discharges from a series of other existing mine pits on the larger facility site. The mine pit permit is linked to the Permit under review here in that industrial process wastewater and coal pile runoff which is covered under this Permit, is routed to the Pond 3E mine-pit system of ponds during summer low-flow months, and ultimately discharged under Permit 0037338. Fact Sheet at p. 11. It appears that there is no treatment other than settling for the pollutants that go this route. All three permits discharge within the Skookumchuck watershed, some to Hanaford Creek, some to other creeks that join the Skookumchuck.

The Conservation Organizations are concerned with separation of the subject Permit and Permit 0037338 when the same pollutants and sources of pollutants are discharged under each. They should be treated as one NPDES permit with multiple outfalls. Also, routing cooling tower blowdown and FGD wastewater to mine pits where acidic conditions are likely present, contributes to the dissolution of metals in the blowdown and FGD waste streams which in turn contributes to higher discharges of dissolved metals under the mine pit Permit. It is clear that Permit 0037338 does not impose BAT and is also not in compliance with the CWA. By treating them separately, TransAlta and the state deprive the public of the opportunity to understand and comment on the entirety of the system and the cumulative damage to the environment. Ecology should consolidate these permits and reissue them as one with full public process.

[7] It also appears from correspondence between TransAlta and Ecology in the spring of 2010 that TransAlta has improperly measured temperature 600 feet downstream of outfall 001 in violation of the permit requirements to sample for temperature 300 feet from the outfall. Therefore, it appears that on some occasions, TransAlta has also violated the permit temperature limits.

D. Antidegradation.

The Fact Sheet outlines Washington antidegradation requirements, but simply states, with no explanation or supporting information, that the TransAlta coal plant must meet Tier I levels of antidegradation. This suggests the most minimal level of antidegradation protection. It is unclear from the Fact Sheet whether this applies to Hanaford Creek only or also to the Skookumchuck and other downstream waters. Downstream is relevant because many of the pollutants of concern are conservative (e.g. nutrients) and/or bioaccumulative meaning that they are not necessarily more dilute or less damaging the further downstream they travel. Moreover, because there is no discussion or supporting information regarding the antidegradation consideration for this Permit, it is impossible to discern whether the antidegradation analysis was properly made pollutant by pollutant. A waterbody may be Tier I for some pollutants, but Tier II for others, requiring a higher level of protection.

E. Mixing Zones.

It is unclear whether the Permit includes a mixing zone in Hanaford Creek for Outfall 001. The Fact Sheet describes in detail Washington's regulations regarding mixing zones and how they are calculated, but it contains no information specific to this Permit and simply concludes with the following statement: "The water quality standards impose certain conditions before allowing the discharger a mixing zone." Fact Sheet at p. 20. It appears that the previous version of the Permit included requirements for a mixing zone study. Later in the Fact Sheet, in the section describing temperature requirements in Washington, there is a statement that "[t]he threshold criteria apply at the edge of the chronic mixing zone." Fact Sheet at p. 22. It is unclear whether this reference is to a mixing zone to be included in the Permit or if it is a general reference regarding general Washington requirements. Correspondence from TransAlta in May of 2010 suggests that TransAlta expects a mixing zone for pH. Finally, there is no disclosure of a mixing zone in the Permit itself. Reading the Fact Sheet and the Permit as a whole, the Conservation Organizations understand that this Permit *does not allow a mixing zone.* If this is incorrect, please clarify the requirements and see mixing zone comments below.

F. WQBELs.

The Fact Sheet discloses that for chromium and chlorine, AKART is less stringent than the Water Quality standards and that for the previous five years of the permit, Water Quality Based Effluent Limits ("WQBELs") would have been exceeded for these two pollutants. Fact Sheet at p. 21. More clearly stated, for the last 5+ years, TransAlta's discharge has been causing and/or contributing to violations of water quality standards for chlorine and chromium. [8]

[8] It should be noted that even the lenient chlorine limit in the Permit, admittedly inadequate to meet water quality standards, was exceeded several times.

For toxic, priority pollutants discharged by TransAlta, the Fact Sheet is confusing. It appears that, according to an April 2010 report to Ecology by TransAlta, TransAlta does not meet no-detect requirements for: arsenic, copper, lead, nickel, selenium, and zinc. Fact Sheet at p. 23. Further, Ecology finds that there is a reasonable potential for TransAlta's discharge of pollutants to violate water quality standards for chlorine, chromium and selenium. Id. Ecology discloses that it was unable to determine whether TransAlta's discharge of pollutants will violate or have the potential to violate water quality standards for copper, lead, nickel, and zinc. Id. The Fact Sheet discloses only that Ecology was unable to so determine due to "lack of data." There is no information as to why the data was lacking, especially given TransAlta's permit renewal obligation to supply adequate data.

All of these pollutants are of significant concern, some for human health, but especially for aquatic ecosystem health. For example, copper interferes with salmonids' (and likely other fish) olfactory abilities which in turn affects predator avoidance and other functions upon which the fish depend on a heightened sense of smell. The National Marine Fisheries Service, based upon research it has participated in, advises that copper causes these adverse effects in salmon at levels as low as 2 ug/L, which level is more stringent than Washington's numeric criteria for copper.[9] Selenium contamination, especially in conjunction with mercury (also present in coal plant discharges), contributes to increased mortality, reduced growth, and reproductive failures in fish.[10] The selenium in the industrial process wastewater is likely increased when the industrial wastewater is routed through the mine pits during the summer months.

Despite these findings, the Permit does not set new or more stringent limits for chromium or chlorine. In fact, the maximum daily limit for total residual chlorine *increases* from the last version of the permit to this Permit; from 0.20 mg/L to 0.50 mg/L. Fact Sheet at p. 25. The Permit sets no limit for selenium or any of the other priority pollutants other than retaining the continuously-violated "no-detect" limit for the cooling tower blowdown.[11] Rather, for all of

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[9] Based upon this research, in order to be protective of designated uses for salmonids and other fish in Hanaford Creek and the Skookumchuck River and to meet narrative water quality standards, Ecology must apply a 2 ug/L criteria for copper and impose effluent limits in this Permit sufficient to comply with that criteria.

[10] See, e.g., A. Dennis Lemly, "Pathology of Selenium Poisoning in Fish", Environmental Chemistry of Selenium, 281, 282 (William T. Frankenberger, Jr. & Richard A. Engberg, eds., 1998); Dennis A. Lemly, Aquatic Cycling of Selenium: Implications for Fish and Wildlife, 5 UDOI FWS Fish and wildlife Leaflet 12 (1987); Dennis A. Lemly, Symptoms and Implications of Selenium Toxicity in Fish: The Belews Lake Case Example, Aquatic Toxicology 57 (2002).

[11] This is confusing. In the Fact Sheet, the no-detect limit is represented as for cooling tower blowdown with no apparent limits for the other waste streams. However, there is no internal outfall to which the cooling tower blowdown requirements apply. Rather there is only one outfall to Hanaford Creek and it appears from the Permit that the no-detect limit applies at the 001 outfall. The actual limits and their basis need to be clarified.

these pollutants, including those Ecology has determined have the reasonable potential to violate water quality standards (and that have been violating water quality standards), Ecology requires a study, to be completed in 2013. Fact Sheet at pp. 21 and 23; Permit at S.11. There are no requirements that the study result in limits or impose particular treatment technologies. There is no requirement in the Permit for implementation of study results. Finally, there is no reference to the EPA Final Study which already sets forth treatment technologies that work for many, if not all, of these pollutants.

THE PERMIT FAILS TO CONFORM TO REQUIREMENTS OF THE CLEAN WATER ACT AND WASHINGTON LAW

The Conservation Organizations object to issuance of the Permit as proposed. The Permit fails to apply BAT and AKART, allows for the violation of water quality standards, fails to properly apply antidegradation requirements, and results in backsliding.

A. The Permit Does Not Require BAT and AKART.

BAT and AKART must be required in the Permit regardless of the status of the receiving waters and the discharge's effects on the water. The Permit reflects no analysis or determination of best treatment technologies or of all known and reasonable treatment technologies for the pollutants and waste streams at issue. The EPA Final Study and June 2010 Guidance clearly demonstrate and find that settling ponds (even with some chemical treatment for some pollutants) are not BAT for steam generating electrical plants like TransAlta. The Final Study clearly demonstrates and EPA finds that the treatment technologies in use at TransAlta's coal plant cannot achieve the purported "no detect" limits in the Permit and likely cannot achieve the limits for chromium. Ecology cannot rely solely on the cooling tower blowdown effluent limitation guidelines for pollutant control requirements. Rather, Ecology should, consistent with the EPA Final Study and June 2010 Guidance, require additional treatments such as biological treatment and/or the zero discharge treatments already in use at other facilities in the U.S. and Europe for TransAlta's industrial waste streams (including coal pile runoff.)

B. The Permit Violates 40 C.F.R. 122.44(d) and WAC 173-220-130.

Ecology has already found that the TransAlta discharge violates (and has been violating) water quality standards for chromium and chlorine and has the reasonable potential to violate water quality standards for selenium. It is likely that the discharge violates narrative water quality standards for copper given that the testing shows copper at or in excess of the 2 ug/L that can adversely affect fish.[12] Further, Ecology has failed to actually make a proper reasonable

[12] The Conservation Organizations are further concerned regarding sulfates. Washington does not have a numeric water quality standards for sulfates, therefore, the narrative standard applies to protect designated uses of Hanaford Creek and other downstream waters. 40 C.F.R. § 122.44(d)(1)(vi) requires states to assess pollutants against narratives standards and designated

potential assessment in that it has not made the effort to acquire data necessary to make such an assessment, as it appears that TransAlta's discharge may violate water quality standards for lead, nickel, and zinc.

Ecology fails to impose limits in the Permit sufficient to ensure that water quality standards are met, in violation of 40 C.F.R. § 122.44(d) and WAC 173-220-130. Rather, Ecology requires only a three-year study and no implementation of any actual pollutant limits. This is particularly egregious given EPA's Final Study demonstrating that biological treatment or zero discharge technologies can remove many of these pollutants. There is no need for a study. The study will simply serve to delay what is required now for this Permit. The work has already been done by EPA.

A compliance schedule may not be used in this case for some, if not all, pollutants. After July 1, 1977, NPDES permits must require immediate compliance for effluent limitations that are based on water quality standards adopted before July 1, 1977. For standards adopted after that date, Ecology may allow compliance schedules only if they have first clearly indicated in its water quality standards submitted to EPA that it intends to allow compliance schedules for meeting WQBELs. See EPA Memorandum "Compliance Schedules for Water Quality-Based Effluent Limitations in NPDES Permits," May 10, 2007, copy enclosed [citing In the Matter of Star-Kist Caribe, Inc., 3 E.A.D. 172, 175, 177 (1990)]. To the extent that any of the standards in question (including narrative standards) were adopted prior to July 1, 1977, Ecology cannot allow a compliance schedule for TransAlta to meet WQBELs necessary to achieve or maintain those standards. For standards adopted after July 1977, Ecology must comply with the requirements for compliance schedules set forth in the EPA May 2007 Memorandum.

The study is decidedly not a "compliance schedule." It is wholly inconsistent with requirements for compliance schedules. Under both federal and state permitting requirements, a compliance schedule must bring a permittee into compliance as soon as possible, but not later than applicable CWA statutory deadlines, and it must do so with interim deadlines requiring specific actions. 40 C.F.R. § 122.47; WAC 173-220-140. As stated by EPA in its May 2007 Memorandum, any compliance schedule in an NPDES permit must be an "enforceable sequence of actions or operations *leading to compliance with a [water quality-based] effluent limitation ["WQBEL"]* as required by the definition of "schedule of compliance in section 502(17) of the CWA." EPA May 2007 Memorandum, p. 2 (emphasis added.) EPA emphasizes throughout the memorandum that schedules of compliance must actually set and require compliance with the WQBEL. Id. Further, EPA sets out very specific findings before a compliance schedule is warranted, none of which have been made here. Id. Finally, EPA is clear that compliance schedules cannot be used to wait for completion of TMDL studies or for the development of Use Attainability Analyses. Id. at 3.

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uses, and if the pollutant has the reasonable potential to cause a violation of the narrative standard, to set calculated effluent limits designed to attain the narrative standard. It is unclear to what extent Ecology has properly assessed sulfate against its narrative criterion.

The provisions in the permit regarding a study are not a compliance schedule as they do nothing to bring TransAlta into compliance with the requirement of the Clean Water Act to apply BAT and WQBELs or with state law to comply with AKART. Further, TransAlta has three years to complete a study of information that should have been developed and provided as part of TransAlta's permit renewal application obligations. There is nothing in the record demonstrating that it takes three years to develop and implement a study that is primarily simply characterizing TransAlta's waste. Waiting for the study is akin to waiting for a TMDL or UAA. Finally, and most importantly, the study is entirely unnecessary in light of EPA's Final Study regarding coal plant wastewater. Ecology must amend the permit to provide for BAT and AKART and set actual WQBELs.

C. The Permit Violates Federal Requirements For Variances From Water Quality Standards And For Downgrading of Water Quality.

Because the Permit fails to include limits necessary to ensure that water quality standards are met in receiving waters, and because the Permit does not include a valid compliance schedule, the Permit allows a variance from water quality standards for at least the term of the Permit and will allow for the downgrading and failure to protect beneficial uses for the term of the Permit. Given these circumstances, Ecology has failed to comply with the requirements of 40 C.F.R. §§ 131.1, 131.10(g), 131.10(h) and the EPA NPDES Permit Writers Manual and EPA Water Quality Standards Handbook.

Federal law and permitting requirements are clear on when a state may allow a variance from water quality standards or under what circumstances a state may allow a downgrading of a waterbody. EPA's NPDES Permit Writers Manual, chapter 10 sets forth the procedures and requirements for state or EPA permit writers when assessing a variance like the one that will effectively be in place for TransAlta in this Permit. Section 10.2.3 provides:

> Water quality standards variances require similar substantive and procedural requirements as removing a designated use, but unlike use removal, variances are both discharger and pollutant specific, are time-limited, and do not forego the currently designated use of a water body. A variance is appropriate where the state believes that the standard can be ultimately attained. By maintaining the standard rather than changing it, the state will assure that further progress is made in improving the water quality and attaining the standard.

USEPA NPDES Permit Writers Manual, EPA 833-B-96-003, Office of Water (Dec. 1996). See also USEPA Water Quality Standards Handbook: Second Edition, EPA 823-B-94-005a, Office of Water, § 2.7 (updated July 2007).

Removal of a use or granting of a variance is subject to very specific conditions. To remove a designated use (or grant a variance from water quality standards) the state must adhere to 40 C.F.R. § 131.10(g). There is no demonstration here that Ecology has applied the factors

and done the analysis required for a variance from water quality standards for TransAlta. Moreover, given the factors required for such analysis, and given that technology standards have not been met in this Permit, Conservation Organizations assert that a variance (or a downgrading in the use) is not supported in this case and the Permit should not allow the implicit variance that is currently part of the proposed Permit.

D. A Mixing Zone Is Inappropriate For These Pollutants And For Hanaford Creek.

As noted above, it is not clear that a mixing zone has been applied in this Permit. In the event a mixing zone is contemplated, Conservation Organizations object to allowance of a mixing zone when TransAlt has not been required to fully apply BAT or AKART prior to being allowed a mixing zone. Conservation Organizations also object to any mixing zone for toxic and accumulative pollutants such as copper or mercury or ammonia or pollutants that accumulate and express problems downstream such as nutrients. A mixing zone is also inappropriate where, as here, anadromous fish use the receiving water. Conservation Organizations further object to any mixing zone that fails to follow the constraints of WAC 173-201A-400 to meet the most restrictive combination of the following:

> The mixing zone may not extend in a downstream direction for a distance from outfall 001 greater than three hundred feet plus the depth of the water over outfall 001, or extend upstream for a distance of over one hundred feet;
>
> The mixing zone may not utilize greater than 25% of the flow; and
>
> The mixing zone may not occupy greater than 25% of the width of the water body.

E. The Permit Appears To Violate the Anti-Backsliding Provisions of the Clean Water Act.

The proposed Permit appears to include a less-stringent maximum daily effluent limitation for chlorine than was previously required. The previous permit imposed a maximum daily effluent limit for chlorine of 0.20 mg/L. The proposed Permit relaxes the maximum daily effluent limit for chlorine to 0.50. Fact Sheet at p. 25. This is particularly troublesome given the evidence in Ecology's file that at 0.20 mg/L TransAlta was causing or contributing to violations of the water quality standard and the evidence that TransAlta has violated the chlorine limit in the past. It appears Ecology is allowing TransAlta to address those problems by simply relaxing the limit. This violates 33 U.S.C. § 1342(o).

F. The Antidegradation Analysis Is Inadequate.

First, Ecology has not applied AKART or BAT to TransAlta's discharges which alone appears to violate Ecology's antidegradation policy. WAC 173-201A-300(2)(d).

Second, the Fact Sheet for the Permit flatly states that Tier I (WAC 173-301A-310) applies to this Permit. There is no discussion or explanation or evidence as to why, on a pollutant by pollutant basis, this is the case as opposed to Tier II. Further, it is apparent from the information in the Fact Sheet and file that in fact this Permit will violate even Tier I requirements in that Ecology has determined that for some pollutants there is a reasonable potential to violate (not just degrade towards) water quality standards and for others Ecology has not made the determination. There is no indication of "appropriate and definitive steps to bring the water quality back into compliance with water quality standards" in this Permit.

Further, as noted above, TransAlta discharges under three different NDPES permits. This Permit and Permit 0037338 are interconnected in that wastewater from this Permit is sometimes discharged through Permit 0037338. There is no indication in the record that a proper, cumulative antidegradation analysis has been done, not just for impacts to Hanaford Creek from multiple discharge points from the totality of TransAlta's discharges, but also to the Skookumchuck River.

ECOLOGY MUST REVISE THE PERMIT

The Conservation Organizations request that Ecology revise the proposed Permit or otherwise take action as follows:

- Assess and impose BAT (for example, biological treatment or zero discharge treatment) in accordance with EPA's Final Study and June 2010 Guidance;

- Assess and impose AKART (for example, biological treatment or zero discharge treatment);

- Impose Water Quality Based Effluent Limits in accordance with 40 C.F.R. § 122.44(d) for chlorine, chromium, selenium, copper (for copper, Ecology should impose an effluent limit below 2 ug/L in order to protect fish habitat and uses), lead, nickel, and zinc;

- Assess the need for a WQBEL for sulfate and impose an effluent limit if necessary;

- Perform antidegradation analysis consistent with the requirements of federal and state law and cumulatively for impacts to Hanaford Creek and the Skookumchuck River from all Transalta's discharges;

- Impose a 0.20 maximum daily limit for chlorine or more stringent limits as necessitated by 40 C.F.R. § 122.44(d) (addressing the backsliding issue);

- Disallow a mixing zone (to the extent that this is currently contemplated or allowed); and

- Assess TransAlta's discharges and limits under this Permit together with the mine pit and landfill permits or consolidate this Permit with the mine pit permit.

Thank you for the opportunity to comment on this very important Permit. The Conservation Organizations look forward to working with you and the permittee to ensure that Washington's waters are fully-protected and the requirements of the Clean Water Act and Washington law fully followed and implemented. Please do not hesitate to contact me should you have any questions.

Sincerely,

Janette K. Brimmer
Attorney for Conservation Organizations

cc: Steve Eberl, Department of Ecology
Mike Bussell, Director, Office of Water and Watersheds, EPA Region 10

Enclosures