CGS NPDES
Comment
#009

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
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OFFICE OF WATER AND WATERSHEDS
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MAY 05 2014
ENERGY FACILITY SITE EVALUATION COUNCIL

May 5, 2013

Mr. Jim La Spina, Energy Facility Siting Specialist
Energy Facility Site Evaluation Council
PO Box 43172
Olympia, Washington 98504-3172

(via e-mail to: JLaSpina@utc.wa.gov)

Re: U.S. Environmental Protection Agency's Comments on the Draft National Pollutant Discharge Elimination System (NPDES) Permit for Columbia Generation Station, NPDES Number WA0025151

Dear Mr. La Spina:

The U.S. Environmental Protection Agency reviewed the above-referenced draft NPDES permit pursuant to the *Memorandum of Agreement Regarding Operation of the NPDES Permit Program between the Energy Facility Site Evaluation Council (EFSEC), the State of Washington, and the United States Environmental Protection Agency Region 10,* dated August 1979 ("MOA"). The EPA reviewed the draft permit for consistency with the Clean Water Act (CWA) and NPDES implementing regulations.

The Columbia Generating Station (CGS) is a nuclear power plant operated by Energy Northwest (EN). The facility is located in Richland, Washington and discharges wastewater to the Columbia River. Additionally, the facility withdraws river water through a screened cooling water intake structure (CWIS) supplying a primarily closed-cycle system for non-contact cooling. The discharge of wastewater is authorized under CWA section 402 and the river water withdrawal is authorized by CWA section 316(b).[1] EFSEC must ensure the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact pursuant to CWA section 316(b), 33 U.S.C. §1326(b), and 40 CFR 401.14.[2]

EFSEC provided the draft permit for public comment on February 3, 2014 ending on March 14, 2014. EFSEC subsequently extended the public comment period to April 18, 2014. The EPA requested additional time to complete our review and comment upon, object to or make recommendations to the draft permit pursuant to section IV.B.3 (under heading B. Formulation of Proposed NPDES Permit) of the MOA in a March 5 letter to the EFSEC Council Chairman

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[1] CWA section 316. Thermal Discharges. (b) Any standard established pursuant to section 301 or section 306 of this Act and applicable to a point source shall require that the location, design, construction, and capacity of cooling water intake structures reflect the best technology available for minimizing adverse environmental impact.

[2] 40 CFR 401.14 Cooling Water Intake Structures. The location, design, construction and capacity of cooling water intake structures of any point source for which a standard is established pursuant to section 301 or 306 of the Act shall reflect the best technology available for minimizing adverse environmental impact, in accordance with the provisions of part 402 of this chapter.

Bill Lynch.[3] The EPA committed to review and comment upon, object or make recommendations to the draft permit no later than May 5, 2014. By this letter, the EPA submits its comments on the draft permit. [4]

The EPA reserves its ability to object to the proposed permit pursuant to the MOA Section IV.C.2 (Issuance of NPDES Permit). The EPA interprets "proposed permit" [5] under this section of the MOA to mean the final permit prior to issuance.[6] The EPA will review the proposed final permit to determine whether our comments and concerns expressed in this letter have been addressed and, if necessary, object to the final proposed permit.

As background, the EPA reviewed the *preliminary draft permit*[7] and submitted comments to EFSEC (Jim LaSpina) in a letter dated August 9, 2013. The EPA's early engagement in the permit review was prompted at the request of the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA or NMFS). The EPA's specific comments on the preliminary draft permit related to CWA section 316(b) are as follows: *(Excerpt)*

> Ecology, in drafting the permit under contract with EFSEC, included no provisions related to 316(b) or the CWIS. As described on Page 20-24 of the fact sheet [associated with the preliminary draft permit], EFSEC determined that previous studies, during the late 1970s and early 1980s, provided sufficient documentation of no entrainment or impingement of "salmonid fry."
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> > As stated on Page 24 [Fact Sheet Prelim. Draft], "EFSEC's best professional judgment determination is that the existing cooling water system intakes location, design, construction, and capacity represent the best technology available for minimizing adverse environmental impact. EFSEC will reevaluate this determination when final rules, applicable to the facility, are issued and may modify this proposed permit on the basis of new information. Any modifications will be implemented in accordance with the requirements of WAC 463-76-041, WAC 463-76-042, and WAC 463-76-043."

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[3] For clarification, the EPA interprets "proposed permit" under this section of the MOA to mean the draft permit. As stated the MOA, "*The Regional Administrator will have up to 30 days, from receipt by the Region 10 Permits Branch of a proposed NPDES permit, pursuant to the right to object under section 402(d) of the CWA, in which to comment upon, object to, or make recommendations with respect to the proposed permit. However, if the Regional Administrator so requests in writing, an additional 60 days shall be given for such review.*"

[4] 40 CFR 122.2 *Draft permit* means a document prepared under §124.6 indicating the Director's tentative decision to issue or deny, modify, revoke and reissue, terminate, or reissue a "permit." A notice of intent to terminate a permit, and a notice of intent to deny a permit, as discussed in §124.5, are types of "draft permits." A denial of a request for modification, revocation and reissuance, or termination, as discussed in §124.5, is not a "draft permit." A "proposed permit" is not a "draft permit."

[5] 40 CFR 122.2 *Proposed permit* means a State NPDES "permit" prepared after the close of the public comment period (and, when applicable, any public hearing and administrative appeals) which is sent to EPA for review before final issuance by the State. A "proposed permit" is not a "draft permit."

[6] As stated in the MOA, "*If the Regional Administrator objects to the proposed permit, the procedures of section 402(d) and implementing regulations shall be followed. In the case of proposed permits for possible new sources under section 306 of the CWA, EFSEC will submit with its proposed permit and public notice, a copy-of its findings whether the source is a new or existing source. No permit shall issue over the Regional Administrator's objection.*"

[7] The *preliminary draft permit* is the permit sent for review before the public comment period.

> The EPA contends that it is appropriate, after 30 years since completion of the original studies of impingement and entrainment, that new studies be designed and implemented to evaluate fully the environmental impact of the CWIS. Additionally, the permit should require facility planning to evaluate the magnitude and cost of CWIS modifications needed to meet the requirements of section 316(b) and address the concerns expressed by NOAA. Studies undertaken during this permit cycle will inform whether additional actions are needed to minimizing adverse environmental impact and will support the BPJ determination for best technology available (BTA). Alternately, the permittee may choose to proceed directly with CWIS modifications to meet the objectives as described by NOAA under a compliance schedule consistent with 40 CFR §122.47.

EFSEC responded to EPA's comments in a letter dated September 3, 2013. As stated in the letter, "[b]oth EPA and NMFS provided substantial comments related to compliance with CWA section 316(b) requirements and the CGS cooling water intake structure. Response to comments on CWA section 316(b) requirements will require further discussion and consideration, and [are] not addressed in this letter." The EPA believes our comments on the preliminary draft permit and fact sheet were sufficiently addressed in the draft permit with the exception of concerns related to CWA section 316(b).[8] EFSEC deferred addressing the concerns expressed by the EPA and NMFS relating to CWA section 316(b) and proceeded to public noticed the draft permit.

Since review of the preliminary draft permit, additional documentation has been provided by EN to bolster Ecology's best professional judgment (BPJ)[9] determination that the facility meets the best technology available (BTA) standard.[10] Ecology included additional information relevant to the CWIS in the fact sheet accompanying the draft permit for public notice. Subsequently, NMFS responded with its own analysis of EN's report followed by NMFS' cost estimate of replacing the intake screens.[11] EN provided their own cost estimate for screen replacement to the EPA as well.[12] However informative, such documentation cannot serve as the robust analysis needed to substantiate the potential impacts to Federally-protected species, if any, and for the BTA determination.

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[8] Jim LaSpina – EFSEC to Karen Burgess – EPA, Response to Comments from EPA and NMFS on Preliminary Draft NDPES Permit, September 3, 2013.

[9] 40 CFR 125.90(b) Existing facilities that are not subject to requirements under this or another subpart of this part must meet requirements under section 316(b) of the CWA determined by the Director on a case-by-case, best professional judgment (BPJ) basis.

[10] Dr. Charles Coutant, *Why Cylindrical Screens in Flowing Waters Impinge and Entrain Few Fish and Its Importance for the Columbia Generating Intake*, November 3, 2014.

Dr. Charles Coutant, Comments on NMFS letter of December 12, 2013 to Shannon Khounnala of Energy Northwest by Michael P. Tehan of NMFS.

[11] Michael Tehan -NMFS to Shannon Khounnala - Energy Northwest, Columbia Generating Station Cooling Water Intake Screens, December 12, 2013 and attachment (Memo from Bryan Nordlund to Rickie Graves – NMFS, Subject: Review of recent info regarding Columbia Generating Station, Dec. 12, 2013).

Michael Tehan -NMFS to Karen Burgess – EPA, Letter regarding NMFS ballpark estimate of the cost of installing screens meeting NMFS criteria, March 26, 1014.

[12] DK Atkinson of Energy Northwest to Karen Burgess of EPA, Cost Estimate to Replace Intake Screens at Columbia Generating Station, April 18, 2014.

The EPA contends that absent the BTA analysis and requirements to demonstrate compliance with CWA section 316(b) the permit does not comply with the statutory requirements or the intent of the CWA. NMFS reiterated its concerns in its comments on the draft permit and notified the EPA that the proposed permit action would have "more than a minor detrimental effect on Federally-protected species".[13]

The EPA's comments on the draft permit reflect the lack of current data on impacts of the CWIS on Federally-protected species that may be present and the need to make a BTA determination. We expect these deficiencies can be addressed by incorporating permit conditions that address the general concerns below as conditions of the final proposed permit:

CWA Section 316(b) Requirements
Section 316(b) of the Clean Water Act requires that National Pollutant Discharge Elimination System (NPDES) permits for facilities with cooling water intake structures (CWIS) ensure that the location, design, construction, and capacity of the structures reflect the best technology available (BTA) for minimizing adverse environmental impact. The conditions of this section of the permit are required to ensure the CWIS is designed, operated and maintained in such manner as to demonstrate compliance with the CWA section 316(b) and any related implementing regulations.

Monitoring
The permit must incorporate monitoring requirements sufficient to quantify the level of impingement and entrainment, including the level of impingement and entrainment of any Federally-protected species that may be present in the vicinity of the intake. The conditions should specify the monitoring location, frequency, duration and methods to determine the extent of impacts caused to species of concern. EFSEC, in consultation with the permittee, NMFS and any experts in the field of study must establish a monitoring program, subject to EPA review, to be carried out through the duration of the permit term.

The facility should be required to measure average monthly and maximum daily intake flow of cooling water through the CWIS and report the values on the monthly discharge monitoring report.

Inspection
The permit must incorporate routine inspections of the CWIS. Inspection techniques may include visual or remote monitoring with photographic records to evaluate impingement of species of concern and to detect and remove debris from the screens. The permittee should establish the frequency and time of year inspection should occur to maximize the overall operation and effectiveness of the CWIS. At a minimum, CWIS inspection should be done on an annual basis during critical period for species of concern.

Reporting
The permit must incorporate requirements to report results of any monitoring for impingement or entrainment, including of Federally-protected species, on a monthly

[13] Michael Tehan -NMFS to Dan Opalski - EPA, Request for EPA Intervention on public review of draft EFSEC/WDOE's proposed Columbia Generating Station NPDES Permit No. WA-00251501 and accompanying Fact Sheet, Feb. 20, 2014.

and/or annual basis. It should also include reporting of CWIS inspection findings. The permit's 24-hr reporting requirement should extend to event of unusual significance related to the CWIS.

Operation and Maintenance
The permit must incorporate requirements to operate and maintain the CWIS and associated equipment, to the maximum extent practicable, to minimize adverse environment impacts consistent with the operational and maintenance practices taken into account in the BTA determination. This includes regular inspections and cleaning of the screen to minimize the through-screen velocity. Inspection records should document inspection dates, findings and maintenance preformed.

Best Technology Available Study and Report
The permit must incorporate requirements for submittal of a document that will serve as the BTA analysis for the facility's CWIS.[14] The study should include analysis of the cost and project related approval/permitting requirements to upgrade the screens to meet the NMFS – Northwest Region screen criteria, and the expected benefits that would result to Federally-protected species.[15] The cost analysis should include an evaluation of alternative construction/installation methods to minimize project-related downtime. The permit should incorporate requirements for a BTA determination based on current information and technology for submittal 12 to 18 months after permit issuance. Additionally, the permit should incorporate a reopener clause to address findings of the revised BTA determination in a timely manner.

The EPA must review the final proposed permit prior to issuance to determine if the revisions meet the requirement of CWA section 316(b). If you have any questions or concerns about this letter, the EPA's oversight role for state-issued NPDES permits, or the EPA-NMFS MOA coordination procedures, please contact Karen Burgess at (206) 553-1344 or myself at (206) 553-1855.

Sincerely,

Daniel D. Opalski, Director
Office of Water and Watersheds

cc: Mr. Bill Moore, Ecology *(via e-mail only: bmoo461@ecy.wa.gov)*
Mr. Vince McGowan, Ecology *(via e-mail only: vmcg461@ecy.wa.gov)*
Mr. Richard Domingue, NOAA-NMFS *(via e-mail only: richard.domingue@noaa.gov)*

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[14] EPA, Development Document for Best Technology Available for the Location, Design and Construction and Capacity of Cooling Water Intake Structures for Minimizing Adverse Environmental Impacts, April, 1976.

[15] National Marine Fisheries Service – Northwest Region, Anadromous Salmonid Passage Facility Design, July 2011. < http://www.westcoast.fisheries.noaa.gov/publications/hydropower/fish_passage_design_criteria.pdf