NRR-PMDAPEm Resource

From: Richard Domingue [richard.domingue@noaa.gov]
Sent: Friday, February 10, 2012 8:36 PM
To: Doyle, Daniel
Subject: Columbia Generating Station Additional Information Request
Attachments: Feb 2012 additional Info request - Columbia Generating Station (2).docx

Dan, As per our previous discussion, attached is an additional information request for information needed for the relicensing of CGS. Please feel free to contact me with any questions.

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Richard Domingue
503-231-6858

Hearing Identifier: NRR_PMDA
Email Number: 269

Mail Envelope Properties (CAEJyb6NfVx1B+s8P9ChNrzu5G7W5Emnuha5dNySLn_Yy4kwk-g)

Subject: Columbia Generating Station Additional Information Request
Sent Date: 2/10/2012 8:35:35 PM
Received Date: 2/10/2012 8:35:21 PM
From: Richard Domingue

Created By: richard.domingue@noaa.gov

Recipients:
"Doyle, Daniel" <Daniel.Doyle@nrc.gov>
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MESSAGE	229	2/10/2012 8:35:21 PM	
Feb 2012 additional Info request - Columbia Generating Station (2).docx			17944

Options
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Return Notification: No
Reply Requested: No
Sensitivity: Normal
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February 10, 2012

To: Dan Doyle, Nuclear Regulatory Commission
From: Rich Domingue, National Marine Fisheries Service

RE: Additional Information Request regarding license renewal of The Columbia Generating Station Consultation No. F/NWR/2011/05286.

We have identified two aspects of the Columbia Generating Station configuration and operations as presented in Supplement 47 of the Generic EIS for License Renewal of Nuclear Plants, Regarding the Columbia Generating Station that have a potential to adversely affect fish species listed under the ESA, or covered under the Magnuson Stevens Act: the cooling system make-up water intake, and effluent outfall 001. At present insufficient information is available to NMFS to evaluate these potential adverse effects. We request the following information.

1. Copies of impingement and/or entrainment studies conducted on the existing intake screens. Your letter of December 20, 2011 refers to two entrainment studies that have been conducted on the existing intakes conducted in 1979-1980 and 1985 as providing evidence that the existing screens are not likely to adversely affect ESA-listed fish species. Please provide copies of these studies, including methods and results for our consideration.

2. A complete intake screen design report. NMFS has developed a fish screen design summary form that provides information pertinent to evaluating the likely effectiveness of water intake screens to avoid or minimize take of listed species (attached). Please complete the attached screen design summary form except those areas we have identified as not applicable (N/A). Some of the requested information is available in the Draft EIS you have provided. However, we need all of the information requested and placing all pertinent information in the summary format would assist our timely review.

3. While the 001 outfall discharges a small amount of water, its physical and chemical characteristics are not well defined and could adversely affect individual fish passing in the immediate vicinity of the outfall. Because the condenser tubing has been replaced, effluent data from the period prior to this replacement does not accurately represent the characteristics of this waste stream. NMFS expects that effluent conditions have improved since this upgrade. Please provide water quality characteristics for this outfall collected pursuant to NPDES permit WA0025151-1 summarized on a quarterly basis (seasonal) over a period of at least one year. NRC should estimate the potential effects of this discharge on Upper Columbia River spring Chinook salmon and steelhead and Upper Columbia River summer/fall Chinook salmon and Columbia River coho (for which essential fish habitat has been designated under the Magnuson-Stevens Act). Both direct effects (e.g. toxicity to salmonids) and indirect effects (e.g. in the event that discharged effluent is warmer than the Columbia River, a potential would exist for additional predation by introduced warm water fishes that may be attracted to and enhanced by the warmer water provided by the outfall) should be considered. The potential for adverse effects varies by season and NRC should address potential adverse effects on each inland life stage and pay particular attention to fry and juvenile life stages as these life stages are most susceptible to adverse water quality conditions. Your draft EIS cites thermal drift studies that were conducted in 1985 (WPPSS 1986) as evidence that heated effluent from the cooling system does not adversely affect anadromous fish that may encounter the waste plume. Although we anticipate that the current effluent characteristics are not the same as those prior to the condenser tubing replacement, please provide a copy of this study for our consideration.

Juvenile Fish Screen Design Summary

Provided by: Date:

Contact information:

I. Description of site including name of diverted stream, type of diversion, type of headgate, metering device, site name.

II. Water Surface Elevation (WSE) Data. Generally indicate method used to determine and estimate flows and elevations. Elevations can be relative to local benchmark, and period of record should be limited to the downstream juvenile migration season.

1. River WSE and streamflow near site of bypass return (open channel diversions only) NA

a. 5% exceedence flow = CFS, WSE =

b. 95% exceedence flow = CFS, WSE =

2. River WSE and streamflow at point of diversion

a. 5% exceedence flow = CFS, WSE =

b. 95% exceedence flow = CFS, WSE =

3. Diverted flow and associated WSE on the screen

a. Maximum diversion = CFS, WSE =

b. Normal diversion = CFS, WSE =

c. Minimum diversion = CFS, WSE =

III. Screen structure

1. Type of screen (rotary drum, fixed vertical, etc.): Attach detailed drawing of screen , including dimensions, mesh, seals

2. Angle of screen relative to ditch flow: NA

3. Screen cleaning mechanism (drum rotation, backspray, brushes etc.):

4. Screen cleaner powered by (electric motor, paddlewheel, hydraulic motor etc.):

5. Minimum submerged screen area:

6. Length of screen:

7. Bottom and top elevation of flow area of the screen:

8. Screen diameter (drum or cylindrical screens): NA

9. For pump intake screens, list brand, model, cleaning mechanism:

10. Describe inspection, operations and maintenance program.

IV. Recommended bypass return pipe (if applicable) NA – (probably)

1. Pipe diameter =

2. Length required (to preferred outfall site) =

3. Pipe slope (rise/run) =

4. Bypass flow and flow control device (weir length or orifice size):

5. Outfall type (submerged, free-fall, open channel):

6. Approximate river velocity at outfall =

7. Minimum outfall depth =

8. Ditch invert elevation =

V. Other site characteristics and constraints (examples: fish species/life stage present, access problems, stream characteristics at bypass outfall site, construction site problems, excessive cut/fill, land owner problems, irrigation season, river flow, construction window, ice jam problems, sedimentation potential, winter operation required for stock water, consolidation potential, irrigation methods that impact indicated water surface elevations, screen location constraints, road/bridge construction required, excessive or unusual debris load etc.). Indicate method of coping with constraints.

VI. Site sketch. Include screen location, river geometry near screen site.

VII. Ditch cross sections (if applicable). Include invert elevations relative to benchmark, distance between cross-sections, and water surface elevation. NA