



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

July 10, 2013

Mr. Mark E. Reddemann
Chief Executive Officer
Energy Northwest
P.O. Box 968 (Mail Drop 1023)
Richland, WA 99352-0968

SUBJECT: COLUMBIA GENERATING STATION – REQUEST FOR ADDITIONAL INFORMATION RELATED TO LICENSE AMENDMENT REQUEST TO IMPLEMENT PRNM/ARTS/MELLLA (TAC NO. ME7905)

Dear Mr. Reddemann:

By letter dated January 31, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML120400144), as supplemented by letters dated July 31, 2012, August 22, 2012, October 5, 2012, November 12, 2013, January 7, 2013, April 11, 2013, and May 9, 2013 (ADAMS Accession Nos. ML12219A255, ML12248A136, ML122920735, ML123280090, ML130150329, ML13116A013, and ML13141A581, respectively), Energy Northwest (the licensee), submitted a license amendment request for Columbia Generating Station that would allow the licensee to expand the operating domain by the implementation of Power Range Neutron Monitoring/Average Power Range Monitor/Rod Block Monitor/Technical Specifications/Maximum Extended Load Line Limit Analysis (PRNM/ARTS/MELLLA). The Neutron Monitoring System would be modified by replacing the analog APRM subsystem with the General Electric – Hitachi Nuclear Measurement Analysis and Control (NUMAC) PRNM System. The licensee would expand the operating domain to MELLLA and make changes to certain allowable values and limits and to technical specifications. The changes to the technical specifications include the adoption of Technical Specifications Task Force (TSTF)-493 Option A surveillance notes. The amendment would also allow a change in the licensing basis to support Anticipated Transient without Scram accident mitigation with one Standby Liquid Control pump instead of two.

By letter dated April 11, 2013, Energy Northwest provided responses to the requests for additional information (RAIs) regarding the instrumentation and controls questions that were issued by U.S. Nuclear Regulatory Commission (NRC) on March 12, 2013 (ADAMS Accession No. ML13067A102). In addition, by letter dated May 9, 2013, Energy Northwest provided clarifications pertaining to the setpoint calculation audit that was conducted on April 3, 2013.

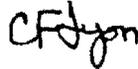
The NRC staff has reviewed the information provided by the licensee and determined that additional information identified in Enclosure 1 to this letter is needed in order for the NRC staff to complete its review. The draft copy of the RAI was provided to Ms. Lisa Williams of your staff via e-mail on June 18, 2013. A teleconference was held on June 26, 2013, with members of your staff. During the call, Energy Northwest agreed to respond within 30 days of the date of this letter. Enclosure 2 contains a redacted, non-proprietary version of the RAI.

M. Reddeman

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If you have any questions regarding this matter, I may be reached at (301) 415-2296 or via e-mail at fred.lyon@nrc.gov.

Sincerely,



Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures:

1. RAI (Proprietary)
2. RAI (Redacted)

cc w/Enclosure 2: Distribution via Listserv

ENCLOSURE 2

REQUEST FOR ADDITIONAL INFORMATION

(NON-PROPRIETARY)

LICENSE AMENDMENT REQUEST TO IMPLEMENT PRNM/ARTS/MELLA

ENERGY NORTHWEST

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

REQUEST FOR ADDITIONAL INFORMATION

LICENSE AMENDMENT REQUEST TO IMPLEMENT PRNM/ARTS/MELLLA

ENERGY NORTHWEST

COLUMBIA GENERATING STATION

DOCKET NO. 50-397

By letter dated January 31, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML120400144), as supplemented by letters dated July 31, 2012, August 22, 2012, October 5, 2012, November 12, 2013, January 7, 2013, April 11, 2013, and May 9, 2013 (ADAMS Accession Nos. ML12219A255, ML12248A136, ML122920735, ML123280090, ML130150329, ML13116A013, and ML13141A581, respectively), Energy Northwest (EN, the licensee), submitted a license amendment request (LAR) for Columbia Generating Station (CGS) that would allow the licensee to expand the operating domain by the implementation of Power Range Neutron Monitoring/Average Power Range Monitor/Rod Block Monitor/Technical Specifications/Maximum Extended Load Line Limit Analysis (PRNM/ARTS/MELLLA). The Neutron Monitoring System would be modified by replacing the analog APRM subsystem with the General Electric – Hitachi (GEH) Nuclear Measurement Analysis and Control (NUMAC) PRNM System. The licensee would expand the operating domain to MELLLA and make changes to certain allowable values and limits and to technical specifications. The changes to the technical specifications include the adoption of Technical Specifications Task Force (TSTF)-493 Option A surveillance notes. Furthermore, the amendment would allow a change in the licensing basis to support Anticipated Transient without Scram (ATWS) accident mitigation with one Standby Liquid Control (SLC) pump instead of two.

By letter dated April 11, 2013, Energy Northwest provided responses to the requests for additional information (RAIs) regarding the instrumentation and controls questions that were issued by the U.S. Nuclear Regulatory Commission (NRC) on March 12, 2013 (ADAMS Accession No. ML13067A102). In addition, by letter dated May 9, 2013, the licensee provided clarifications pertaining to the setpoint calculation audit that was conducted on April 3, 2013. The NRC staff has reviewed the information provided in the Energy Northwest's responses and determined that the following information is required to complete its technical review.

RAI 22

With regard to Staff Position 20 of Digital Instrumentation and Controls DI&C-ISG-04, Revision 1, "Task Working Group #4: Highly-Integrated Control Rooms—Communications Issues (HICRC), Interim Staff Guidance," dated March 6, 2009 (ADAMS Accession No. ML083310185), the licensee has stated that [I]

[I]. If this test data is available by middle of August 2013, please provide a summary of the test results. If such data is not likely to be available by August 31, 2013, please provide the date by which the data will be available for CGS.

RAI 23

Recirculation flow signal processing electronics are being replaced by integrated digital NUMAC chassis based APRM electronics. The APRM is to be designed such that any single short or open of any one of the flow inputs will not affect the other flow inputs. Energy Northwest has stated that [

Please confirm how the flow transmitter signal to local power range monitor (LPRM) system will be isolated such that there is no adverse effect on the safety system due to an open circuit, a short circuit, or a ground fault. Since the eight flow transmitters are not safety related, Energy Northwest is requested to clarify how the safety to non-safety interface and signal isolation is achieved for the flow transmitters.]].

RAI 24

In order to determine that Rod Manual Control System (RMCS) to Rod Block Monitor (RBM) communication link will not be subject to a broadcast storm, the licensee is requested to confirm whether the data communicated over the serial link from the RMCS to the RBM is fixed and validated prior to use. If not, please explain how data broadcast storm is avoided such that adverse effects on the functioning of RBM are prevented.

RAI 25

Table 1, Columbia NUMAC PRNM Licensing Topical Report (LTR) Deviations in 0000-0101-7647-R3 (ADAMS Accession No. ML12040A073) lists three exceptions. Exception (a) states that Oscillation Power Range Monitor (OPRM) Upscale function is voted with APRM INOP [inoperable] Function with the justification that it improves operating flexibility. The PRNM licensing basis, as described in the in the document cited above, is that "OPRM Upscale function is voted separately from the APRM INOP function." The justification for this deviation is to improve operational flexibility. As the licensee states,

This deviation allows using the APRM chassis keylock switch to place APRM and OPRM outputs from a second channel in the tripped condition when another APRM/OPRM channel is already bypassed (and cannot be returned to service within the allowed out of service time) without having to resort to other actions such as disconnecting a fiber-optic cable to the 2-out-of-4 voters or removing power from the APRM chassis.

Section 8.4.1.3 of NEDC-32410P¹, Supplement 1² states, in part, that combining the OPRM upscale with the APRM INOP function could result in unnecessary trips. Unnecessary trips are considered nuisances and challenges to the safety system. Based on the rationale provided in Section 8.4.1.3 of NEDC-32410P, Supplement 1, please further justify this change with the regard to spurious trips.

RAI 26

Table 1, Columbia NUMAC PRNM LTR Deviations in 0000-0101-7647-R3 (ADAMS Accession Nos. ML12040A081 (non-public) and ML12040A073 (public)) lists three exceptions and the second exception (Exception b) states that time to calculate the Flow-biased Trip Setpoint takes more than the allocated time in LTR NEDC-32410P-A, Volume 14, Section 3.3.2, with the explanation that [[

]]

Section 3.3.2 of NEDC-32410P-A, in part states that:

[[

]]

[[

]] The NRC staff is concerned that the intent of the trip may not be met for fast transients due to the excessive response time. Please further justify this deviation for back up protection against all transients. In addition, please cite any precedence with regard to this deviation, if available.

RAI 27

Table 1, Columbia NUMAC PRNM LTR Deviations in 0000-0101-7647-R3 lists three exceptions and the third exception (Exception c) states that any missing module in a chassis causes an alarm but not necessarily a trip whereas the PRNM licensing basis states that [[

]] Energy Northwest justifies this exception by referring to the purpose of the APRM INOP trip described in NEDC-32410P-A, Section 3.2.10.1, and stating that [[]]. The NRC staff has not found any statement in NEDC-32410P-A, Section 5.3.8.2 or Section 3.2.10.1, which states this rationale. Therefore, please clarify and further justify this exception.

¹ NEDC-32410P-A, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function, Volumes 1 and 2," October 1995 (ADAMS Legacy Accession No. 9605290009).

² NEDC-32410P-A, "Nuclear Measurement Analysis and Control Power Range Neutron Monitor (NUMAC PRNM) Retrofit Plus Option III Stability Trip Function, Supplement 1", November 1997 (ADAMS Legacy Accession No. 9806120242).

RAI28

As mentioned earlier, the setpoint calculation audit was conducted by NRC on April 3, 2013. Subsequent to the meeting, the staff observed that there are minor discrepancies between the previously provided Figure 9.3.8.1 in GEH setpoint methodology in NEDC-33685P (ADAMS Accession Nos. ML12040A082 and ML12040A074) and the response to RAI 18 provided by Energy Northwest's letter dated October 5, 2012. Figure 9.3.8.1 shows the required limit [[

]] whereas Figure RAI 18-1 shows the [[
]]. Energy Northwest is requested to explain the noted discrepancy.

M. Reddeman

- 2 -

If you have any questions regarding this matter, I may be reached at (301) 415-2296 or via e-mail at fred.lyon@nrc.gov.

Sincerely,

/RA/

Carl F. Lyon, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-397

Enclosures:

- 1. RAI (Proprietary)
- 2. RAI (Redacted)

cc w/Enclosure 2: Distribution via Listserv

DISTRIBUTION:

NON-PUBLIC/PUBLIC

LPLIV Reading

RidsAcraAcnw_MailCTR Resource

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RidsNrrLAJBurkhardt Resource

RidsRgn4MailCenter Resource

GSingh, NRR/DE/EICB

ADAMS Accession No. ML13179A125 (OUO-PI); ML13179A128 (Redacted)

*Previously concurred

OFFICE	NRR/DORL/LPL4/PM	NRR/DORL/LPL4/LA	NRR/DE/EICB/BC	NRR/DORL/LPL4/BC	NRR/DORL/LPL4/PM
NAME	FLyon	JBurkhardt*	JThorp*	MMarkley	FLyon
DATE	7/10/13	7/3/13	7/9/13	7/10/13	7/10/13

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