March 5, 2001

MEMORANDUM TO: Marsha Gamberoni, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Lawrence J. Burkhart, Project Manager, Section 1 **/RA/**
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: BEAVER VALLEY POWER STATION, UNITS 1 AND 2, LICENSE AMENDMENT REQUEST DATED DECEMBER 27, 2000, DRAFT REQUEST FOR ADDITIONAL INFORMATION (TAC NOS. MB0848 AND MB0849)

Attachment 1 is a draft request for additional information (RAI) that was discussed with the licensee in a teleconference on February 14, 2001. Attachment 2 is a draft RAI that was sent to the licensee via e-mail on February 16, 2001. Attachment 3 is the licensee's draft response to the RAI discussed on February 14, 2001. These questions are intended to be discussed at a public meeting scheduled for February 28, 2001. For further information regarding the public meeting, please see the meeting notice dated February 16, 2001 (Accession Number ML010470125).

Docket Nos. 50-334 and 50-412

Attachments: As stated

CONTACT: L. Burkhart, NRR
301-415-3053

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COMMENTS AND QUESTIONS ON BEAVER VALLEY UNITS 1 & 2 SETPOINT METHODOLOGY REVIEW (DISCUSSED WITH LICENSEE VIA TELECONFERENCE ON FEBRUARY 14, 2001)

1. On Page 4 of plant license, under Section (3) Less Than Three Loop Operation, the licensee proposed to delete all the discussions and replaced with a sentence "Deleted per License Amendment ___." It should provide clarification such as "Less than three loop operation is limited by condition set by LCO 3.4.1.1."

2. The protection logics for Beaver Valley Units 1 and 2 are not identical. Unit 1 Setpoint document (WCAP-11419 Table 3-25) identified 32 items while Unit 2 Setpoint document (WCAP-11366 Table 3-24) only identified 29 items. Please provide a set of logic diagrams from each unit for staff review. Please also list the major differences in protection logic between Units 1 and 2.

3. Please explain how the interlock setpoints (such as P-4, P-7, P-11, P-12 etc.) were determined.

4. Unit 1 has a "Steam/Feedwater mismatch and low steam generator level trip" logic, while Unit 2 does not have that logic. Please explain in the technical specification bases on that different logic.

5. Are the WCAP-11419 and WCAP-11366 first time submitted to NRC for review? Is there any previous submitted setpoint methodology documents on the Beaver Valley Units 1 & 2 dockets?

REQUEST FOR ADDITIONAL INFORMATION ON BEAVER VALLEY'S 12/27/2000 SUBMITTAL (Sent to licensee via e-mail on February 16, 2001)

First Energy Nuclear Operating Company (licensee) submitted a request on 12/27/2000 for license amendment on Beaver Valley Units 1 and 2 Technical Specifications (TS) changes. In supporting these TS changes, the licensee also submitted four Westinghouse Topical Reports:
(1) WCAP-11419, "Setpoint Methodology for Protection Systems for Beaver Valley Unit 1"
(2) WCAP-11366, "Setpoint Methodology for Protection Systems for Beaver Valley Unit 2"
(3) WCAP-15264, "Revised Thermal Design Procedure Instrument Uncertainty for Unit 1"
(4) WCAP-15265, "Revised Thermal Design Procedure Instrument Uncertainty for Unit 2"
The following questions are related to the review of the above topical reports:

1. The Westinghouse setpoint methodology reports (WCAP-11419 & WCAP-11366) stated that the methodology for Beaver Valley Unit 1 & 2 protection system sepoints are consistent with ISA S67.04, Part 1, 1994, that was endorsed by NRC Regulatory Guide 1.105, Revision 3. However, WCAP-15264 and WCAP-15265 reports are reference to RG 1.105, Revision 2. Please identify and justify the areas in the instrument uncertainty study that are not conformed with RG 1.105, Revision 3.

2. The basic equations of Overpower Delta T for Beaver Valley Units 1 and 2 are different from the Standard Technical Specifications of Westinghouse Plants. Please explain the reason for the difference.

3. The Pressurizer Pressure channel uncertainties in the protection system setpoint study (WCAP-11419), the channel statistical allowance (CSA) is about ±2.5% to ±2.7% span, while in the RTDP instrument uncertainty study (WCAP-15265), the channel statistical allowance (CSA) is about ±4.4% span. Please explain the difference between these two studies.

4. Please explain the following questions related to WCAP-15265 Table 1, "Pressurizer Pressure Control System Uncertainties": (a) How the CSA was calculated? Are they combined with control and indication? (b) Why only consider the seismic effects on Rosemount transmitter, ant not consider the seismic effects on Barton transmitters? (C) Why the effects of radiation and temperature are not considered? WCAP-11366 Table 3-9 "Pressurizer Pressure - Low, SI" has considered the radiation and temperature effects. (d) A foot note stated that (LOE)* treated as a bias. Another term listed as (bias+LOE). What is the difference between these two terms. (e) Why (LOE)* for CSA is -7.5 psi while (LOE)* for controller is +7.5 psi?

5. When Beaver Valley Units 1 and 2 have the reactor coolant system's RTD bypass manifolds removed? How does this modification affect the setpoint study on the Tavg channel uncertainties?

6. In Tavg uncertainties calculation (Page 7 in WCAP-15265), It stated that the Tavg controller accuracy is the combination of the instrumentation accuracy and the deadband. Why the "deadband" has not been considered in other controller accuracy calculation, such as pressurizer pressure control, RCS flow control, and other secondary side controls?

LICENSEE'S DRAFT RESPONSE TO THE DRAFT RAI DISCUSSED ON FEBRUARY 14, 2001

List of RPS/ESFAS logic diagrams in the UFSAR

Unit 1 - Figure 7.2-1 Sheet 1,2,3,4,5,6,7,8,9, and 15

Unit 2 - Figures 7.3-6, 7.3-7, 7.3-8, 7.3-9, 7.3-10, 7.3-11, 7.3-12, 7.3-13, 7.3-14, 7.3-18, 7.3-19, and 7.3-20.

Setpoint WCAPS

The current BVPS Unit 1 RPS/ESFAS setpoints are based on WCAP 11419 as stated in amendment number 155 (TAC NO. 71869) dated August 17, 1990. The SER states that the revision of the RPS and ESFAS trip setpoints and allowable values are based on the re-analysis of the instrument inaccuracies. This re-analysis was performed to update the BVPS unit 1 setpoint methodology to the same methodology used in determining Unit 2 protection setpoints. The methodology used is detailed in WCAP 11419 for Unit 1.

The current BVPS Unit 2 RPS/ESFAS setpoints are based on WCAP 11366. This is based on discussions with Westinghouse and on a BVPS letter to the NRC (2 NRC-7-108) dated May 7 1987. This letter was is response to questions on the BVPS Unit 2 technical specifications. This letter provided a justification for the use of a pressurizer pressure-high reactor trip setpoint of 2375 psig as indicated in the BVPS setpoint WCAP 11366.

MINI RTDP

BVPS Unit 1 is licensed to WCAP–12178 (MINI RTDP) dated March 1989 based on the SER for amendment 144 (TAC No. 73123) dated September 28, 1989 and the BVPS submittal dated May 9, 1989.

BVPS Unit 2 is licensed to WCAP–12178 (MINI RTDP) based on the SER for amendment 57 (TAC No. M84411) dated September 23, 1993 and the BVPS submittal dated October 15, 1991.