

May 18, 2006

Mr. James H. Lash  
Vice President  
FirstEnergy Nuclear Operating Company  
Beaver Valley Power Station  
P. O. Box 4  
Shippingport, PA 15077

SUBJECT: BEAVER VALLEY POWER STATION, UNIT NO. 2 (BVPS-2) - REQUEST FOR SCHEDULAR EXTENSION FROM GENERIC LETTER (GL) 2004-02, "POTENTIAL IMPACT OF DEBRIS BLOCKAGE ON EMERGENCY RECIRCULATION DURING DESIGN BASIS ACCIDENTS AT PRESSURIZED WATER REACTORS" (TAC NO. MC4666)

Dear Mr. Lash:

By letter dated September 6, 2005, as supplemented by letter dated April 3, 2006, you requested an extension from December 31, 2007, until startup from the spring 2008 refueling outage beginning in March 2008 for implementation of modifications described in GL 2004-02 for BVPS-2. The Nuclear Regulatory Commission (NRC) staff has completed its review of your request and determined that FirstEnergy Nuclear Operating Company (FENOC) has a plan that will result in the installation of final modifications that provide acceptable strainer function with adequate margin for uncertainties. Further, the NRC staff has concluded that FENOC has put mitigation measures in place to adequately reduce risk for the requested short extension period. It is therefore acceptable to extend the completion date for the corrective actions for the issues discussed in GL 2004-02 (specifically, the recirculation spray system pump start signal modification and high pressure safety injection throttle valve gap re-sizing modification) until the completion of the BVPS-2 spring 2008 outage, currently scheduled to begin in March 2008. Should FENOC elect to begin the outage more than 30 days after March 31, 2008, FENOC will need to provide the NRC additional justification for the further delay in completing the above corrective actions for GL 2004-02.

J. Lash

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The details of our review are contained in the enclosed evaluation. If you have any questions, please contact me at 301-415-1402.

Sincerely,

*/RA/*

Timothy G. Colburn, Senior Project Manager  
Plant Licensing Branch I-1  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:  
Evaluation

cc w/encl:  
See next page

J. Lash

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Timothy G. Colburn, Senior Project Manager  
Plant Licensing Branch I-1  
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Office of Nuclear Reactor Regulation

Docket No. 50-412

Enclosure:  
Evaluation of Extension Request

cc w/encl:  
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EVALUATION OF EXTENSION REQUEST

GENERIC LETTER 2004-02

FIRSTENERGY NUCLEAR OPERATING COMPANY (FENOC)

BEAVER VALLEY POWER STATION, UNIT NO. 2 (BVPS-2)

DOCKET NO. 50-412

In a September 6, 2005, supplemental response to Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2004-02, "Potential Impact of Debris Blockage on Emergency Recirculation During Design Basis Accidents at Pressurized-Water Reactors," dated September 13, 2004, FENOC described its activities for resolution of the Generic Safety Issue (GSI)-191 containment sump issue for BVPS-2. FENOC also stated that in accordance with GL 2004-02, the new containment sump strainer will be installed at BVPS-2 before December 31, 2007. However, FENOC requested an extension for completion of certain actions in response to GL 2004-02 until March 31, 2008 in order to allow adequate time to properly design and install a change to the recirculation spray system (RSS) pumps start signal (which is tied directly to the refueling water storage tank level and designed to ensure the strainer will be submerged during the recirculation phase of all postulated events), and to allow time to prepare and obtain NRC approval of an associated license amendment.

The mitigative measures to improve existing margins that FENOC described in the September 6, 2005 supplemental response to Generic Letter 2004-02 were:

- Increased screen area, filtering capability and structural characteristics of the newly installed multiple-element strainer to be installed in the fall 2006 refueling outage; and
- Bulletin 2003-01 interim compensatory measures would remain in place during the extension period.

In an April 3, 2006, letter to the NRC, FENOC provided additional information related to its request for an extension for completion of actions in response to GL 2004-02. FENOC stated that the high pressure safety injection (HPSI) throttle valves had previously been identified as presenting the limiting downstream opening size for operation with debris-laden fluids. FENOC reported that it has noted that the BVPS-2 valve gap is smaller than the final design opening size of the new sump strainer, an emergent condition necessitating a modification to increase the HPSI throttle valve gap size.

FENOC further stated that it intended to make the HPSI throttle valve modification at BVPS-2 during the spring 2008 refueling outage (2R14), scheduled to begin no later than March 31, 2008, rather than during the fall 2006 outage (2R13) which begins in October 2006. In support of this second extension request, FENOC provided the following new rationales and mitigative actions beyond those provided for the RSS start signal change above:

- The normal one-year processing cycle for a license amendment for the HPSI throttle

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valve modification would not permit installation of the HPSI throttle valve modification during the 2R13 outage.

- Throttle valve modifications cannot be performed at power because there are no isolation valves between the HPSI throttle valves and the reactor cooling loop piping (FENOC here noted that RSS pump start signal modifications also can not be performed at power because of the need to make wiring changes to the solid state protection system);
- The start date of the 2R13 refueling outage does not allow adequate time for proper design and installation of the HPSI throttle valve modification (as well as associated containment walkdowns, identification of replacement hardware, wear analysis for new components, procurement processes, and (potential) special manufacture of components);
- A previous evaluation had shown that the debris exiting the original strainer and reaching the HPSI throttle valve, although potentially larger than the original HPSI throttle valve gap, would be pushed through the gap;
- The new strainer has openings with a round shape that will lead to a slightly smaller downstream debris size; and
- Operator actions would be taken to manually delay RSS pump start, increasing submerged screen area and enhancing emergency core cooling system pump net positive suction head (later to be accomplished automatically following the RSS pump start signal modification).

The NRC staff has determined that FENOC has a plan that will result in the installation of final GSI-191 modifications that provide acceptable strainer function with adequate margin for uncertainties. Further, the NRC has concluded that FENOC has put mitigation measures in place to adequately reduce risk for the requested short extension period, and it is therefore acceptable to extend the completion date for the corrective actions for the issues discussed in GL 2004-02 (specifically the RSS pump start signal modification and HPSI throttle valve gap re-sizing modification) until the completion of the BVPS-2 2R14 spring 2008 refueling outage, scheduled to begin in March 2008. Should FENOC elect to begin the outage more than 30 days after March 31, 2008, FENOC will need to provide the NRC additional justification for further delay in completing corrective actions for GL 2004-02.

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