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August 15, 2018
L-18-199

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

SUBJECT:
Beaver Valley Power Station, Unit No. 2
Docket No .50-412, License no. NPF-73
Request for Notice of Enforcement Discretion
Technical Specification 3.8.4, "DC Sources – Operating", and
Technical Specification 3.8.9, "Distribution Systems – Operating"

On August 13, 2018, FirstEnergy Nuclear Operating Company (FENOC) verbally requested a Notice of Enforcement Discretion (NOED) associated with Technical Specification (TS) 3.8.4, "DC Sources – Operating" and TS 3.8.9 "Distribution Systems – Operating" for Beaver Valley Power Station (BVPS) Unit 2. This submittal fulfills the requirement that a written NOED request be submitted to the NRC within two working days following the NRC verbal approval.

The condition that prompted the need for an NOED began at 0158 EDT on August 12, 2018 when multiple unexpected alarms were received in the Control Room indicating a loss of 2P Emergency 480 Volt Bus. This was due to the trip of the 4KV feeder to Bus 2P (2F11) on overcurrent which led to loss of the "B" train battery chargers and the discharge of the "B" train batteries. At 0410 EDT BVPS Unit 2 commenced a power reduction and entered Mode 3 at 0843 EDT. At 1445 EDT, BVPS Unit 2 entered Mode 4. The requested NOED is to waive compliance with the requirements to enter Mode 5 per TS 3.8.4, "DC Sources – Operating," Action D.2 and TS 3.8.9 "Distribution Systems-Operating" Action D.2. This will allow for an additional period of 18 hours beyond the expiration of the Completion Time (1558 EDT on August 13, 2018) until 0958 EDT on August 14, 2018, to remain in Mode 4. With Unit 2 in Mode 4 and the 480 Volt Emergency Bus restored, a request was made to provide additional time for BVPS Unit 2 to restore the "B" train batteries to Operable. Otherwise a transition from Mode 4 to 5 would result in an unnecessary shutdown transient with potential safety consequences and operational risks.

The requested NOED was verbally granted by Mr. Matt Young, Division of Reactor Projects, Region I, on August 13, 2018 at 1203 EDT. In accordance with the guidance provided in Regulatory Information Summary 2005-01, Revision 1, "Changes to Notice of Enforcement Discretion (NOED) Process and Staff Guidance," and NRC Inspection Manual Chapter

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0410, "Notices of Enforcement Discretion," the Attachment 1 to this letter provides BVPS's written NOED request.

By 2253 EDT on August 13, 2018, BVPS Unit 2 "B" train batteries were declared Operable and the applicable TS LCO Actions were exited.

The regulatory commitments made during the teleconference and in this submittal are listed in Attachment 2.

If there are any questions or additional information is required, please contact Brian Kremer, Manager – Site Regulatory Compliance

Sincerely,

A handwritten signature in black ink, appearing to read "R. D. Bologna", with a long horizontal flourish extending to the right.

Richard D. Bologna
Site Vice President

Attachments:

1. Request for NOED
2. Commitment List

cc: NRC Regional Administrator
NRC Project Manager
NRC Senior Resident Inspector

ATTACHMENT 1.
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REQUEST FOR ENFORCEMENT DISCRETION REGARDING COMPLIANCE WITH
TECHNICAL SPECIFICATION (T.S.) 3.8.4, "DC SOURCES – OPERATING"

The following provides the information, described in Nuclear Regulatory Commission (NRC) Inspection Manual Chapter (IMC) 0410, required to be included in requests for enforcement discretion:

07a. Did the licensee address what type of Notice of Enforcement Discretion (NOED) is being requested? which of the NOED criteria is satisfied. and how it satisfied those criteria?

IMC 0410, Section 06.02, "Types of NOEDs," Criterion a.2, applies. This criterion applies to "plants in a shutdown condition, a NOED shall reduce shutdown risk by avoiding testing, inspection, high-risk evolutions, or system realignment that is inappropriate for the particular plant conditions, when adherence to the TS or license condition does not provide an overall safety benefit or may be detrimental to safety in the particular plant condition." A transition from Mode 4 to Mode 5 and Mode 5 back to Mode 4 would be a system realignment that does not provide an overall safety benefit.

07b. Did the licensee detail the TS or license condition that will be violated?

The Beaver Valley Power Station (BVPS) Unit 2 Technical Specification (TS) 3.8.4, "DC Sources -Operating" and TS 3.8.9 "Distribution Systems-Operating" are applicable in Modes 1, 2, 3, and 4.

Beaver Valley Power Station (BVPS) requests regional enforcement discretion from compliance with TS 3.8.4, Action D.2 and TS 3.8.9 "Distribution Systems-Operating" Action D.2 for BVPS Unit 2, for an additional period of 18 hours beyond the expiration of the Completion Time (1558 EDT on August 13, 2018) until 0958 EDT on August 14, 2018. This will allow Unit 2 to remain in Mode 4 for an additional 18 hours to restore the batteries to their Operable parameters. The additional 18 hours will avoid a cooldown of BVPS Unit 2 from Mode 4 to Mode 5. BVPS Unit 2 is in Mode 4.

07c. Did the licensee provide a description of the circumstances, including: likely causes; the need for prompt action; the action taken to avoid the need for a NOED; and any relevant historical events?

August 12, 2018 (0158 EDT) – Multiple unexpected alarms. Loss of 2-9P buss.

Electrical Maintenance Reports that the cause of the loss is a trip of the 4KV feeder to Bus 2P (2F11) on overcurrent.

August 12, 2018 (0358 EDT) – The associated completion time not met for 3.8.4 condition A. Enter 3.8.4 Condition D. Required Action D.1 be in Mode 3 in 6 hours and D.2 be in Mode 5 within 36 hours.

August 12, 2018 (0410 EDT) – Commenced down power.

August 12, 2018 (0843 EDT) – Unit 2 Manual Reactor trip IAW 2OM-52.4.B. Enter Mode 3.

August 12, 2018 (1359 EDT) – 50-VF-211C relay has been replaced and tested satisfactory (SAT). All four relays (3 overcurrent relays and 1 lockout relay) have been tested SAT.

August 12, 2018 (1445 EDT) – Unit 2 enters Mode 4.

Per NOP-OP-1005, Defense In-Depth now applies. A preliminary evaluation of D-I-D per NOP-OP-1005-F03 resulted in all functional categories being Green Risk.

August 12, 2018 (1613 EDT) – BV-TR-2-9P Transformer Megger – SAT.

August 12, 2018 (2011 EDT) – 480 Volt 2P Bus has been restored.

August 13, 2018 (0110 EDT) – Operations reports 2-2 battery charger is placed into service on primary charger. Initial voltage 120V and Current 100amps.

August 13, 2018 (0153 EDT) – Operations reports 2-4 battery charger is placed into service on primary charger. Initial voltage 120V and Current 100amps.

August 13, 2018 (1203 EDT) – Battery 2-2 voltage as of 1203 EDT was 130 VDC.

NEED FOR PROMPT ACTION

Prompt action is requested from the NRC to provide enforcement discretion to not enforce the provisions of TS 3.8.9 and TS 3.8.4, Action D.2 for an additional period of 18 hours beyond the expiration of the Completion Time (1558 EDT on August 13, 2018) until 0958 EDT on August 14, 2018, to remain in Mode 4 for additional 18 hours. This will prevent an unnecessary shutdown transient because of compliance with the license condition and, thus, minimize the potential safety consequences and operational risks. Operational risk includes operating the plant in a solid condition to complete degasification.

Additional radiological risk would be incurred by the crud burst associated with maneuvering the plant to Mode 5. This evolution is expected to increase occupational dose by 5 rem by increasing source term in the next outage.

ACTION TAKEN IN AN ATTEMPT TO AVOID THE NEED FOR AN NOED

BVPS actions to avoid the need for this NOED request, included staffing the outage control center and initiating a dedicated team to troubleshoot the cause of the 480 Volt bus loss, make repairs and restore the batteries to their required parameters under a complex maintenance plan utilizing 24-hour coverage.

RELEVANT HISTORICAL EVENTS

None.

07d. Did the licensee provide information that shows the licensee fully understands the cause of the situation that has led to the NOED request?

The loss of 480 Volt bus was due to a failed overcurrent relay. The discharge of the batteries was due to the loss of the 480 Volt bus. All associated overcurrent relays have been tested and the 4kV to 480V 2P bus transformer has been meggered.

07e. Did the licensee detail the proposed course of action to resolve the situation until the situation no longer warrants an NOED?

The 480 Volt bus has been restored and the battery chargers returned to service such that that batteries are being charged in their required manner. This will support Return to Operable status and eliminate the further need for an NOED.

07f. Did the licensee address that the resolution itself does not result in a different, unnecessary transient?

The 480 Volt bus restoration activities did not result in a plant transient and the additional 18 hours to remain in Mode 4 to restore the batteries to their Operable parameters will not result in a different plant transient. The UFSAR designated, safety related equipment is being used to recharge the batteries.

07g. Did the licensee explain why they did not have time to process an emergency TS or license amendment or that a license amendment is not needed?

The event of a failed relay causing the loss of a 480 Volt bus and the subsequent inoperability of the batteries resulting in entry into TS 3.8.4, Action B with a Completion Time of 2 hours and TS 3.8.4, Action D.2 with a Completion Time of 36 hours could not have been anticipated. The preparation of an emergency TS amendment request prior to the time required to begin transition to Mode 5 is not practical. There have not been any recent TS changes concerning battery Operability.

07h. Did the licensee describe the condition and operational status of the plant, including safety-related equipment out of service or otherwise inoperable, and

non-safety-related equipment that is degraded or out of service that may have risk significance and that may increase the probability of a plant transient or may complicate the recovery from a transient or may be used to mitigate the condition?

- Battery 2-2 was Inoperable
- Battery 2-4 was restored to Operable status after teleconference with NRC but prior to the period of enforcement discretion.
- PORV Block Valves (2RCS-MOV536 and 2RCS-MOV537) Closed (unrelated to the event)
- RWST was below its TS level (LCO 3.5.4 was not met) because of normal water use in the shutdown. LCO 3.5.4 Condition B was met at August 13, 2018 @ 1235 EDT prior to the period of enforcement discretion.
- The 2-2 Inverter was inoperable as it is a supported system of the 2-2 Battery. Based on Completion Time enforcement discretion was not required.
- N31 source range detector had a failed detector and was out of service.
- N32 source range detector audible indications (not required in Mode 4) in Control Room was not functioning, however, this was resolved prior to the period of enforcement discretion.

07i. Did the licensee request a specific period for the NOED, including a justification for the duration of the noncompliance?

The 480 Volt bus has been restored and the battery chargers have been returned to service. From previous maintenance and testing activities it is estimated that it may take at least an additional 7 hours from the Completion Time (1558 EDT on August 13, 2018) to restore the batteries to a full charge. An additional period of 18 hours beyond the expiration of the Completion Time is requested to remain in Mode 4.

Full power PRA (included Internal events initiators, internal flooding, Seismic, and IPEEE Fire) bounding calculation for 24 hours is ICCDP= $1.5E-7$, ICLERP will be below $5E-8$ threshold as it is typically an order of magnitude lower. Shutdown defense in Depth is Green.

07j. Did the licensee detail and explain compensatory measures the plant has both taken and will take to reduce the risk associated with the specified configuration?

- All discretionary yellow risk or greater work will be placed on hold.
- A Train at BVPS Unit 2 is protected per procedure.
- Recovery of source range N31 and N32 will be allowed to continue.
- Battery Chargers 2-2 and 2-4 are be protected. Surveillances to verify float voltage and current will be allowed to continue.
- Flex and Spare Battery Chargers are staged, and procedures are available.
- Procedures are prepared to proceed to Mode 5. Based on current battery voltages, we expect Mode 5 could be attained prior to battery depletion.

- Protect the Steam Driven Aux Feedwater Pump and brief the Operators on local, manual operation on Aux Feedwater throttle valves.
- Brief the Operators on the procedures for the station blackout cross-tie between units.

No other safety related TS or PRA equipment will be intentionally removed from service for discretionary surveillances or preventative maintenance. No discretionary switchyard activities will be allowed during the NOED time.

07k. Did the licensee discuss the status and potential challenges to offsite and onsite power sources, including any current or planned maintenance in the distribution system and any current or planned maintenance to the emergency diesel generators?

There are currently no challenges to offsite power sources. There is no current or planned maintenance for the emergency diesel generators or distribution systems. The weather forecast is hot and humid with a chance for scattered thunder showers.

07l. Did the licensee include the safety basis for the request and an evaluation of the safety significance and potential consequences of the proposed course of action?

The request for the additional period to remain in Mode 4 for additional 18 hours has a minimal impact on radiological risk and is not detrimental to public health and safety. The request does not result in any significant changes in the types, or significant increase in the amounts, of any effluents that may be released offsite.

07m. Did the licensee demonstrate that the NOED condition, along with any compensatory measures will not result in more than a minimal increase in radiological risk, either in a quantitative assessment that risk will be within the normal work control levels (ICCDP less than or equal to $5E-7$ and/or ICLERP less than or equal to $5E-8$) or in a defensible qualitative manner?

Full power PRA (included Internal events initiators, internal flooding, Seismic, and IPEEE Fire) bounding calculation for 24 hours is ICCDP= $1.5E-7$, ICLERP will be below $5E-8$ threshold as it is typically an order of magnitude lower.

This analysis was conservative in that it assumed that Batteries 2-2 and 2-4 were completely unavailable.

07n. Did the licensee discuss forecasted weather and pandemic conditions for the NOED period and any plant vulnerabilities related to weather or pandemic conditions?

There are no active alerts for any adverse weather conditions in the area. The forecast calls for hot and humid with a chance for scattered thunder showers. There are no pandemic flu conditions present.

07o. Did the licensee describe the basis for the conclusion that the noncompliance will not create undue risk to public health and safety?

The proposed period of noncompliance will not be detrimental to public health and safety. BVPS has evaluated the risk and determined that it is sufficiently low. A summary of the evaluation is provided as part of Item 07m. To further protect the health and safety of the public, risk management actions have been taken to not allow work activities on offsite power or diesel generators during this period.

07p. Did the licensee describe the basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment?

This request for enforcement discretion will not result in any significant changes in the types, or significant increase in the amounts, of any effluents that may be released offsite. In addition, no significant increase in individual or cumulative occupational radiation exposures will be involved because of the request.

07q. Did the licensee's facility organization that normally reviews safety issues approve the request?

This NOED request was reviewed and approved by the BVPS Plant Operations Review Committee (PORC) on August 13, 2018. The PORC approved the NOED, with three action items:

1. Call Switchyard Grid Operator to verify no work from our Switchyard to the first breaker out from the Switchyard (Complete).
2. Verifying applicable Tech Specs that BVPS Unit 2 is currently in that would require Mode 5 (Complete).
3. Verify the time that charging voltage of the batteries would be less than 2amps (Complete).

07r. Did the licensee commit that it will submit a written NOED request within two working days and a follow-up license amendment request following the staff's verbal granting of the NOED?

FENOC will submit a written NOED request within two days.

ATTACHMENT 2.
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REGULATORY COMMITMENTS
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The following list identifies those actions committed to by FirstEnergy Nuclear Operating Company (FENOC) for Beaver Valley Power Station. Any other actions discussed in the submittal represent intended or planned actions by FENOC. They are described only as information and are not regulatory commitments. Please notify Mr. Brian Kremer, Regulatory Compliance Manager at (724) 682-4284 with any questions regarding this document or associated regulatory commitments.

<u>Commitment</u>	<u>Due Date</u>
1. Protect the Steam Driven Aux Feedwater Pump and brief the Operators on local, manual operation on Aux Feedwater throttle valves.	August 13, 2018 by 1558 EDT (Complete)
2. Brief the Operators on the procedures for the station blackout cross-tie between units.	August 13, 2018 by 1558 EDT (Complete)
3. Submit a written NOED request within two working days.	Satisfied by this letter