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Constellation Energy Group

Nine Mile Point
Nuclear Station

August 14, 2003
NMP2L 2095

U. S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, DC 20555

SUBJECT: Nine Mile Point Unit 2
Docket No. 50-410
License No. NPF-69

Request for Regional Enforcement Discretion

Gentlemen:

On August 12, 2003, following discussions with the NRC staff, Nine Mile Point Unit 2 (NMP2) was granted regional enforcement discretion with respect to Technical Specification (TS) 3.8.7 due to equipment inoperability. The purpose of this letter is to document the basis of the verbal request, request a written confirmation of the enforcement discretion that was granted, and notify the NRC that the inoperable equipment was restored to operable status within the time allowance of the enforcement discretion.

NMP2 TS 3.8.7, "Inverters – Operating," requires the Division 1 and Division 2 emergency uninterruptible power supply (UPS) inverters to be operable in Modes 1, 2, and 3. With one of these inverters inoperable, Required Action A.1 requires the inverter to be restored to operable status within 24 hours. If Required Action A.1 and the associated completion time are not met, Required Actions B.1 and B.2 of TS 3.8.7 require the unit to be placed in Mode 3 within 12 hours and in Mode 4 within 36 hours, respectively.

On August 11, 2003, at 1901 hours, with NMP2 in Mode 1, the Division 2 UPS inverter 2VBA*UPS2B failed as the result of a blown fuse. The inverter was declared inoperable and Required Action A.1 of TS 3.8.7 was entered. During subsequent investigation, it was determined that compliance with the 24-hour completion time specified in Required Action A.1 would force a plant shutdown in order to complete repairs, required post-maintenance testing, and restoration of the inverter to operable status.

On August 12, 2003, at approximately 1730 hours, NMPNS representatives made a telephone request to the NRC staff for enforcement discretion and provided supporting information. Based on this information, regional enforcement discretion was granted on August 12, 2003, at 1958 hours. The enforcement discretion was to be effective from 1901 hours on August 12, 2003, until 1301 hours

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on August 13, 2003 (18 hours total). In the meantime, at 1901 hours on August 12, 2003, NMP2 entered Required Actions B.1 and B.2 of TS 3.8.7 requiring plant shutdown. As the result of the enforcement discretion, at 1958 hours on August 12, 2003, NMP2 operators exited Required Actions B.1 and B.2 and continued restoration of the inoperable UPS inverter to operable status in accordance with Required Action A.1. After completion of necessary repairs, the Division 2 UPS inverter 2VBA*UPS2B was declared operable on August 13, 2003, at 0508 hours. This enabled Required Action A.1 of TS 3.8.7 to be exited.

Attachment 1 documents the information that was provided to the NRC staff on August 12, 2003, in support of the enforcement discretion request.

I declare under penalty of perjury that the foregoing is true and correct. Executed on August 14, 2003.

Very truly yours,

Peter E. Katz
Vice President Nine Mile Point

PEK/IAA/bjh
Attachment

xc: Mr. H. J. Miller, Regional Administrator, Region I
Mr. G. K. Hunegs, NRC Senior Resident Inspector
Mr. P. S. Tam, Senior Project Manager, NRR (2 copies)

ATTACHMENT 1

REQUEST FOR ENFORCEMENT DISCRETION

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REQUEST FOR ENFORCEMENT DISCRETION

1. The Technical Specification (TS) or other license conditions that will be violated.

Nine Mile Point Unit 2 (NMP2) Technical Specification (TS) Limiting Condition for Operation (LCO) 3.8.7, "Inverters - Operating," requires the Division 1 and Division 2 emergency uninterruptible power supply (UPS) inverters to be Operable in Modes 1, 2, and 3. With one emergency UPS inverter inoperable, Required Action A.1 requires the inverter to be restored to Operable status within 24 hours. Required Action A.1 is modified by a Note requiring the applicable Conditions and Required Actions of LCO 3.8.8, "Distribution Systems - Operating," to be entered immediately with any 120 VAC uninterruptible panel de-energized. This Note provides direction that is an exception to LCO 3.0.6 in that the Conditions and Required Actions of not only the support (inverter) system, but also the supported (distribution) system, are required to be entered if the 120 VAC uninterruptible panel is de-energized. If Required Action A.1 and the associated Completion Time are not met, Condition B applies and Required Actions B.1 and B.2 must be entered which require the unit to be placed in Mode 3 within 12 hours and in Mode 4 within 36 hours, respectively.

On August 11, 2003 at 1901 hours EDT, annunciators indicated that the Division 2 UPS inverter 2VBA*UPS2B (UPS inverter 2B) had failed. Subsequent investigation identified a blown fuse in the inverter. It was also verified that the critical loads had successfully auto-transferred to the maintenance supply as designed and remained energized. The inverter was declared inoperable (at 1915 hours) and TS 3.8.7 Required Action A.1 was entered as of 1901 hours. Since UPS panels 2VBS*PNL301B and 302B and the associated critical loads auto-transferred to the maintenance supply and remained energized, no entry into the LCO 3.8.8 Conditions and Required Actions was necessary. However, compliance with the 24-hour Completion Time for Required Action A.1 would force a shutdown of NMP2 in order to complete repairs, required post-maintenance testing, and restoration of the inverter to Operable status. As discussed in Item 9 below, the forced shutdown of the unit would introduce an unnecessary plant transient that is not commensurate with the public health and safety for the given condition. Therefore, Nine Mile Point Nuclear Station, LLC, (NMPNS) is requesting enforcement discretion to extend the 24-hour Completion Time for Required Action A.1. Specifically, NMPNS is requesting that the existing 24-hour Completion Time be extended an additional 18 hours for a total proposed Completion Time of 42 hours. As discussed in Item 4, this should provide the additional time needed to complete the repairs on UPS inverter 2B, re-test it, and restore it to Operable status.

2. The circumstances surrounding the situation, including apparent root causes, the need for prompt action and identification of any relevant historical events.

- Circumstances Surrounding the Situation

On August 11, 2003, at 1901 hours, the inverter on emergency UPS 2VBA*UPS2B failed due to a blown fuse, which caused the critical loads to be auto-transferred to the maintenance supply. Similar failures of this inverter occurred on July 26 and August 8, 2003. Troubleshooting determined that the cause of the blown fuse was a loose gate lead on a silicon controlled rectifier (SCR) bridge. Two weak SCRs (i.e., resistance values comparatively lower than those for the other SCRs) were also found. The corrective action will consist of repairing the SCR gate lead and replacement of the two weak SCRs.

The proposed 18 hour Completion Time extension (period of noncompliance) will allow sufficient time to complete repairs on UPS inverter 2B, re-test it and restore it to Operable status. While the repair work is being performed, the UPS loads will be powered from the maintenance source through the manual transfer switch.

- UPS Testing:

To date, maintenance and surveillance testing and inspection performed for the emergency UPS system has not indicated degradation of the inverters. Testing of the emergency UPS system includes:

a. The performance of Electrical Surveillance Procedure N2-ESP-BYS-W675, "125 Volts DC Weekly Battery Surveillance," verifies UPS inverter voltage and frequency, and the performance of Surveillance Test Procedure N2-OSP-LOG-W001, "Weekly Checks," verifies that the UPS inverters are properly aligned to the associated 120 VAC distribution panels. These surveillances fulfill TS Surveillance Requirement (SR) 3.8.7.1.

b. At least once every four (4) years, as determined by the preventive maintenance optimization program, the following testing is performed in accordance with Electrical Preventive Maintenance Procedure N2-EPM-GEN-V624, "UPS Inverter Functional Checks, Cleaning and Inspection":

   - The output voltage and frequency of each UPS inverter is verified during operation with the unit carrying normal loads. This testing is performed while operating on either the normal AC or backup DC sources.

   - A loss of AC and DC to the UPS inverter with automatic transfer is simulated to verify UPS transfer times.

- The UPS inverter is inspected for signs of overheating, damaged components, loose connections, excessive dust, and fan condition.

- The panel and board mounted instruments are calibrated.

The most recent performance of N2-EPM-GEN-V624 for the UPS 2B inverter was during NMP2's Cycle 8 refueling outage in the spring of 2002.

c. Quarterly, the following testing is performed in accordance with Electrical Preventive Maintenance Procedure N2-EPM-GEN-Q635, "UPS Inverter Cleaning and Inspection":

- The output voltage and frequency of each UPS inverter is verified during load testing.

- The UPS inverter is visually inspected for signs of overheating, damaged components, loose connections, excessive dust, and fan condition.

- Maintenance Rule:

The 10 CFR 50.65 Maintenance Rule performance and monitoring criteria at NMP2 are controlled by Maintenance Rule Manual Procedure N2-MRM-REL-0105, "Maintenance Rule Performance Criteria." Any failure which causes loss of power to loads or the inability to power the inverter from the DC bus even though the loads are powered would be classified as a Maintenance Rule Functional Failure. There have been four failures of the emergency UPS inverter system at NMP2 in the last two years. Prior to the current event, the system was meeting its availability goals and is currently classified in (a)(2) status (i.e., system is meeting established performance objectives).

- Reliability Assessment

A review of Deviation Evaluation Reports (DERs) and Work Orders was performed covering the last ten years. This review was initiated to assess the historical reliability of UPS inverters 2A and 2B and their respective maintenance power sources. Two failures of UPS inverter 2A occurred in the summer of 2002. The failures were corrected by the replacement of driver boards and the J-9 board. The review found seven items involving UPS inverter failure (inoperable) and none of these events involved a loss of power to the critical loads. With the exception of the current failure of UPS inverter 2B and the two recent related failures, as described above, the UPS inverters and their maintenance power sources have historically been reliable.

3. **The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. This evaluation should include at least a qualitative risk assessment using both risk insights and informed judgements, as appropriate.**

- System Description/Design Basis:

  The UPS system consists of the two independent UPS inverters, 2A and 2B, and their associated distribution panels, 2VBS*PNL101A and 102A and 2VBS*PNL301B and 302B, respectively. The UPS inverters are 25 kVA, 120 VAC, 1-phase models manufactured by Elgar Corporation. The purpose of the UPS inverters is to provide a continuous source of filtered 120 VAC power to the safety-related critical plant loads and instrumentation supplied from the associated distribution panels. The UPS inverters are designed to provide the required capacity, capability, redundancy, and reliability to assure the availability of necessary power to the Emergency Core Cooling System (ECCS) instrumentation and controls so that the fuel, reactor coolant system, and containment design limits are not exceeded during postulated accidents or transients.

  Each UPS system has three power supplies, which are controlled by a manual transfer switch and static switch. The normal 600 VAC supplies to the UPS inverters are from power distribution panels EJS*PNL100A (Div. 1) and EJS*PNL300B (Div. 2), the backup 125 VDC battery supplies are from DC switchgear buses 2BYS*SWG002A (Div. 1) and 2BYS*SWG002B (Div. 2), and the maintenance supplies are from emergency lighting panels 2LAC*PNL100A (Div. 1) and 2LAC*PNL300B (Div.2). The manual transfer switch can be selected to either the UPS or the Maintenance position. If selected to the UPS position, power to the critical plant loads will be through the static switch from either the normal 600 VAC supply or the backup 125 VDC battery supply. The static switch is a solid state device which is used to electronically effect a bumpless (i.e., no interruption of power) transfer of the UPS loads from one supply to the other. If the manual transfer switch is selected to the Maintenance position, the static switch is bypassed and power to the critical plant loads is supplied only from the 600 VAC maintenance supply via a regulating transformer. While the UPS repair work is being performed during the proposed LCO extension period, the UPS loads will be powered from the maintenance supply through the manual transfer switch.

  When the UPS is supplied from the normal 600 VAC supply, the UPS rectifier section converts the AC input supply to 125 VDC and then the inverter section converts the 125 VDC to the regulated and filtered 120 VAC output supply. When the UPS is supplied from the 125 VDC backup battery source, only the inverter section of the UPS is used, which converts the 125 VDC battery supply to the regulated and filtered 120 VAC output. In addition, the UPS inverter maintains its generated AC waveform synchronized with the maintenance

supply's AC waveform to enable a bumpless transfer of the critical plant loads between the UPS and maintenance supply if necessary.

Under normal conditions, the UPS is in operation and supplying power from the UPS inverter output to the critical plant loads through the static switch with the manual transfer switch in the UPS position. In this lineup, the UPS loads will be automatically transferred to the maintenance supply by the static switch in the event of a UPS failure or if a large overload is sensed.

- UPS Failure Impact:

  Loss of power to the UPS inverter 2B distribution panels would render the following Division 2 core cooling and engineered safety features (ESF) systems (including ECCS) inoperable:

  Service Water
  Standby Gas
  Residual Heat Removal (RHR) (all modes)
  Automatic Depressurization
  Reactor Core Isolation Cooling (RCIC)

- Deterministic Safety Basis:

  Although the Division 2 UPS inverter 2B will be inoperable during the proposed LCO extension period, the critical plant loads will be powered from the maintenance source (through the manual transfer switch), which will supply the required safety-related instrumentation and control functions assuming no additional failures. Continued operation with one UPS inverter inoperable and the maintenance source supplying the loads results in a reduction of power source reliability. In the event of a design basis accident with a loss of offsite power, the maintenance source (panel 2LAC*PNL300B) would be supplied by the Division 2 emergency diesel generator, which would result in an additional three second delay (as compared to the Division 1 response) before restoration of power to the loads supplied by UPS inverter 2B.

  There will be no impact on the Division 3 ECCS (High Pressure Core Spray), and the Division 1 UPS inverter (2A) will be operable and capable of performing its safety function. As previously evaluated in the Updated Safety Analysis Report, even with a loss of an entire division of safety-related electrical power, the remaining two electrical divisions are capable of supplying the emergency loads required for safe shutdown of the reactor in case of an accident. Furthermore, the compensatory measures identified in Item 7 provide additional assurance that all of the required power sources will be available during an accident.

- Risk Considerations and Conclusions:

  Continued operation with one UPS inverter inoperable and the maintenance source supplying the loads results in a reduction of power source reliability. Any increase in radiological risk caused by extending the LCO completion time by 18 hours is offset by the compensatory measures described in item 7. These measures reduce risk of radiological consequences associated with the increased LCO completion time by:

  a. Reducing initiating event frequencies by prohibiting elective maintenance and testing on safety-related and safety-significant equipment.

  b. Protecting systems that mitigate the consequences of events.

  c. Creating a heightened level of awareness in operator response to potential events through operating crew briefings.

  Effectively, these measures compensate for the 18-hour period of reduced reliability resulting from the unavailability of the battery backup to the Division 2 UPS inverter 2B. Thus, NMPNS concludes that extending the LCO completion time by 18 hours does not involve any net increase in radiological risk.

4. The justification for the duration of the noncompliance.

The duration of the noncompliance (18 hours) is based on the estimated time to complete repairs and to re-test the UPS inverter 2B to restore it to Operable status. The additional time is justified based on the estimated duration of the repair effort with some repair contingency time included. The planned critical path activities associated with the repair effort and the expected duration of each activity are provided in the table below:

PLANNED REPAIR ACTIVITY	DURATION (HOURS)
Troubleshooting	20
Replace SCRs and repair lead	8
Confidence run	8
Contingency	6
Total estimated time to complete	42

5. **The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that no significant hazard consideration is involved.**

   a. **Operation of Nine Mile Point Unit 2 (NMP2) in accordance with the enforcement discretion will not involve a significant increase in the probability or consequences of an accident previously evaluated.**

   Nine Mile Point Nuclear Station, LLC, (NMPNS) is requesting that the existing Technical Specification (TS) 24-hour Completion Time for an inoperable uninterruptible power supply (UPS) inverter be extended an additional 18 hours for a total proposed Completion Time of 42 hours. As discussed in Item 4, this should provide the additional time needed to complete the repairs on UPS inverter 2B, re-test it, and restore it to Operable status.

   The emergency UPS inverters are not an initiator of any accident previously evaluated. Although the Division 2 UPS inverter 2B will be inoperable during the proposed LCO extension period, the critical plant loads will be powered from the maintenance source, which will supply the required safety-related instrumentation and control functions assuming no additional failures. Moreover, there will be no impact on the Division 3 Emergency Core Cooling System (ECCS), and the Division 1 UPS inverter (2A) will be operable and capable of performing its safety function. A plant-specific probabilistic risk assessment (PRA) has been performed which demonstrates that the incremental conditional core damage and large early release probabilities associated with the requested extended period of operation are not risk-significant. Compensatory measures are in place as identified in Item 7 to provide assurance that other critical systems are not impacted and also to enhance the availability of the offsite and onsite electrical power supplies. This reduces the risk that mitigating equipment would not be available in the event of a design basis accident. Therefore, the proposed enforcement discretion will not significantly increase the probability or consequences of an accident previously evaluated.

   b. **Operation of NMP2 in accordance with the enforcement discretion will not create the possibility of a new or different kind of accident from any accident previously evaluated.**

   The TSs currently allow a UPS inverter to be inoperable for 24 hours. The requested extended period of operation with a UPS inverter inoperable does not introduce any new modes of plant operation or new accident precursors, and does not involve any physical modifications to the plant. The UPS inverters are designed to assure the availability of a source of AC electrical power for the instrumentation and controls of systems required for safe shutdown of the reactor following an accident. Continued operation with

one UPS inverter inoperable with only its maintenance supply available will result in a reduction in power source reliability. However, as previously evaluated in the Updated Safety Analysis Report, even with a loss of an entire division of safety-related electrical power, the remaining two electrical divisions are capable of supplying the emergency loads required for safe shutdown of the reactor in case of an emergency. Therefore, the proposed enforcement discretion will not create the possibility of a new or different kind of accident from any accident previously evaluated.

c. **Operation of NMP2 in accordance with the enforcement discretion will not involve a significant reduction in a margin of safety.**

The UPS inverters are designed to assure the availability of necessary power to the ECCS instrumentation and controls so that the fuel, reactor coolant system, and containment design limits are not exceeded during postulated accidents or transients. The requested extended period of operation with a UPS inverter inoperable will not adversely affect the design or performance characteristics of the ECCS or any other plant systems. Although the Division 2 UPS inverter 2B will be inoperable during this period, the critical plant loads will be powered from the maintenance source, which will supply the required safety-related instrumentation and control functions assuming no additional failures. Moreover, there will be no impact on the Division 3 ECCS, and the Division 1 UPS inverter (2A) will be operable and capable of performing its safety function. In addition, a plant-specific PRA concluded that the requested extended period of operation is not risk-significant and that continued operation for the requested period will not involve a net increase in radiological risk. Therefore, the proposed enforcement discretion does not involve a significant reduction in a margin of safety.

6. **The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.**

The requested enforcement discretion impacts only the time period allowed for one UPS inverter to be inoperable. There will be no increase in the amounts or types of any effluents that may be released offsite nor an increase in individual or cumulative occupational radiation exposure. Furthermore, the requested enforcement discretion does not physically modify the plant, increase the plant's licensed power level, or involve irreversible environmental consequences.

7. **Any proposed compensatory measures.**

The following compensatory measures are currently in place:

- Deferment of any planned maintenance or testing on the electrical power distribution system or any other safety-related or safety-significant equipment until UPS inverter 2B has been returned to service.

- Protective postings of UPS inverter 2A and the associated AC supply (2EJS*PNL100A and 2LAC*PNL100A) and distribution (2VBS*PNL101A and 102A) panels.

- No planned maintenance or testing will be allowed on the emergency diesel generators (EDGs) until UPS inverter 2B has been returned to service. All three EDGs are currently operable.

- Protective postings of the Division 1 and 2 EDGs and the High Pressure Core Spray (HPCS) (Division 3) EDG.

- Protective postings of the HPCS pump.

- No elective maintenance or testing activities will be scheduled in the 115 kV switchyard or on the 115 kV power supply lines and transformers which could cause a line outage or challenge offsite power availability.

- Protective postings of 115 kV offsite supply Line #6 (Source B) from the Scriba Substation (offsite power source for Division 2).

- Protective posting of panel 2LAC*PNL300B.

- Operating crew briefings have been performed to create a heightened level of awareness in operator response to potential events.

- Monitoring of site area weather conditions.

8. **A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant On-site Review Committee, or its equivalent).**

   This request for enforcement discretion has been reviewed and approved by the Station Operations Review Committee (SORC).

9. **The request must specifically address which of the NOED criteria for appropriate plant conditions specified in Section B of NRC Inspection Manual Part 9900 is satisfied and how it is satisfied.**

   NMP2 is currently operating in Mode 1. Section B.2 of Part 9900, Criterion 1, states that for an operating plant, the enforcement discretion is intended to: (a) avoid unnecessary transients as a result of compliance with the license condition and, thus, minimize potential safety consequences and operational risks, or (b) avoid testing, inspection, or system realignment that is inappropriate for the particular plant conditions. This request for enforcement discretion meets Criterion 1.a in that, as a consequence of exceeding the 24-hour Completion Time allowed by

TS 3.8.7, Required Action A.1, for restoring UPS inverter 2B to Operable status, NMP2 would be forced to enter Required Actions B.1 and B.2. Compliance with these Required Actions would result in a plant shutdown by requiring the plant to be in MODE 3 within 12 hours and in MODE 4 within 36 hours.

10. If a follow-up license amendment is required, both the written NOED request and the license amendment request must be submitted within 2 working days. The licensee's amendment request must describe and justify the exigent circumstances (see 10 CFR 50.91(a)(6)).

No follow-up license amendment is required. A written NOED request will be submitted within 2 working days.

11. For severe weather or other natural phenomena-related NOEDs, the licensee's request must be sufficiently detailed for the staff to evaluate the likelihood that the event could affect the plant, the capability of the ultimate heat sink, on-site and off-site emergency preparedness status, access to and from the plant, acceptability of any increased radiological risk to the public and the overall public benefit. In addition to items 1-10 above, as appropriate, the licensee must provide:

a. Details of the basis and nature of the emergency; potential consequences of forced compliance with the license conditions to the plant, and the emergency situation. The licensee must provide the name, organization and telephone number of the official who made the emergency assessment.

b. Status, and potential challenges to off-site and on-site power sources, and the impact of the emergency on plant safety.

c. Demonstrated actions taken to avert and/or alleviate the emergency situation, including steps taken to avoid being in the noncompliance, as well as efforts to minimize grid instabilities (e.g., coordinating with other utilities and the load dispatcher organization for buying additional power or for cycling load, or shedding interruptible industrial or non-emergency loads).

Not applicable.