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Fax: 440-280-8029August 8, 2005
PY-CEI/NRR-2898LUnited States Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555Perry Nuclear Power Plant
Docket No. 50-440
Denial of Non-Cited Violations Contained in NRC Inspection Report 05000440/2005003

U.S. Nuclear Regulatory Commission (NRC) Inspection Report (IR) 2005003 summarizes the result of the inspection conducted at Perry Nuclear Power Plant (PNPP) in accordance with the NRC Inspection Procedure (IP) 95003. Pursuant to 10 CFR 50.4, and in accordance with the guidance in the NRC Enforcement Policy, First Energy Nuclear Operating Company (FENOC) hereby disputes two of the violations identified in that report.

First, non-cited violation (NCV) 05000440/2005003-14, "Contrary to requirement, as of April 7, 2005, the design basis requirements related to EDG response to a LOOP signal had not been correctly translated into the design and this nonconforming condition had not been corrected". Our evaluation of this issue has determined that we are in compliance with our licensing basis for the emergency diesel generator (EDG) starting circuitry.

Second, non-cited violation (NCV) 05000440/2005003-26, "Licensee implemented changes to the Emergency Plan to allow the dual assignment of the shift HP [Health Physics] Technician as the interim OSCC, which decreased the effectiveness of the Emergency Plan". As a result of our evaluation, we have determined that the applicable portions of the Emergency Plan have been implemented consistent with the applicable provisions originally approved by the NRC and subsequent changes to the Emergency Plan have not altered these provisions.

FENOC respectfully requests the NRC Staff to reconsider the issuance of these two NCVs. The bases of our denials are provided in the attachments to this letter.

There are no regulatory commitments contained in this letter or its attachments. If there are any questions concerning this matter, please contact Mr. Jeffrey Lausberg – Manager, Regulatory Compliance at (440) 280-5940.

Very truly yours,



Attachments

cc: NRC Project Manager
NRC Resident Inspector
State of Ohio
NRC Region III

DISPUTE OF NON-CITED VIOLATION 05000440/2005003-14

I. RESTATEMENT OF THE NON-CITED VIOLATION

"In 2004 as part of the EDG latent issues review, CR 04-03463 was initiated to document that for about 2 minutes following an EDG shutdown, the K-1 contactor could chatter and experience the same type of failure as that observed during the monthly surveillance test conducted in RFO9. Specifically, the issue involves the response of the EDG during shutdown from a surveillance test. After the EDG unit output breaker was opened, operators shut down the engine by placing the EDG control switch to "STOP" which then spring returns to "AUTO". Following this action, there was a 2-minute period of vulnerability where the EDG would not re-start on a manual start or automatic LOOP signal generated by the bus under-voltage relays. A manual start or automatic LOOP signal would cause the EDG to roll on air start and lockout. This could result in damage to the K-1 contactor in the generator field circuitry."

"Furthermore, the team reviewed the facility's design and licensing basis information. Perry UFSAR Table 8.1-2 stated, in part, that the application of standby EDGs to the Class 1E power system was in accordance with IEEE Standard 387-1977, "IEEE Standard Criteria for Diesel-Generator Units Applied as Standby Power Supplies for Nuclear Power Generating Stations." IEEE Standard 387-1977, Section 5.6.2.2, "Automatic Control," stated, in part, that upon receipt of a start-diesel signal the automatic control system shall provide automatic startup and automatic adjustment of speed and voltage to a ready to load condition. Furthermore, a start signal shall override all other operating modes and return control of the DG unit to automatic control system, and a start signal shall not override any manual non-operating mode such as those for repair and maintenance. The licensee's corrective actions and analysis, as described to the team, was not consistent with the IEEE guidance. Additionally, NRC Regulatory Guide 1.108 Section C.1 .b.(3) stated that periodic testing of EDG units should not impair the capability of the unit to supply emergency power within the required time. Where necessary, DG unit design should include an emergency override of the test mode to permit response to bona fide signals."

"Appendix B of 10 CFR 50, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to ensure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances are promptly identified and corrected. Contrary to requirement, as of April 7, 2005, the design basis requirements related to EDG response to a LOOP signal had not been correctly translated into the design and this nonconforming condition had not been corrected."

II. BASIS FOR DISPUTING THE NON-CITED VIOLATION

As discussed below, although FENOC agrees that a plant modification is necessary to preclude chatter damage to the K-1 contactor under the conditions described in IR 2005003, we believe that the emergency diesel generator (EDG) configuration is within the existing design basis, and consequently, no NCV should be issued.

A. THE PNPP EDGs Are Not Required to Start During the Two Minutes Following an Engine Shutdown

First, we note that the PNPP EDG is in a shutdown (i.e., non-operating) mode, not an operating mode during the two minutes following an engine shutdown. Therefore IEEE Standard 387-1977, Section 5.6.2.2, Automatic Control applies which says, "a start signal shall not override any manual non-operating mode such as those for repair and maintenance." Consequently, because the EDG is in fact, not in an operating mode (and is treated as such under Technical Specifications), it is not required to start if it receives a start-diesel signal during those two minutes. The EDG system operating instructions limit testing to only one EDG at a time in order

to ensure the other EDG remains operable during this brief two minute shutdown period. The system operating instructions also prohibit shutting down two EDGs at the same time. These instructions ensure that the other EDG can respond to a LOOP start signal if required.

B. A LOOP Start is Not an Emergency Start

The discussions contained in the FSAR and USAR concerning testability of the diesel generators center around Loss of Coolant Accident (LOCA) start or loss of 4.16. Kv bus voltage and emergency starts. While loss of 4.16 Kv bus voltage can be considered a "Loss of Offsite Power (LOOP)", it is not an emergency start. Discussions contained in FSAR and the USAR support that conclusion.

Specifically, the PNPP licensing basis in the FSAR stated:

The controls for the diesel generator are designed such that if an emergency start signal is initiated while the unit is undergoing its periodic exercise test, whether the unit is starting, running disconnected, running loading, tripping under a fault other than overspeed or generator differential, or coasting to a stop, the control system will cause the unit to return to rated speed and voltage, and will disarm all protection except overspeed and generator differential.

The PNPP Updated Safety Analysis Report (USAR), however, replaces the term "emergency start" with the term "LOCA start". This change indicates, therefore, that a LOCA start is the only emergency start of the EDG.

The FSAR also states:

that "only the *generator differential and overspeed trip* (emphasis added) functions will shut down the diesel generators after a start resulting from a LOCA signal. The following additional, *nonessential trip functions are bypassed upon receipt of a LOCA signal but will shut down the diesel generators when operating in all other modes:* (emphasis added)

- (a) High jacket water temperature.
- (b) High engine bearing temperature.
- (c) Low turbocharger oil pressure.
- (d) Low lubricating oil pressure.
- (e) High vibration level.
- (f) High crankcase pressure.
- (g) Reverse power.
- (h) Voltage-controlled overcurrent [Generator Differential Current]
- (i) Lube oil temperature high.

Thus, it can be inferred that the non-essential trips are still active on a LOOP start signal, and consequently, it is not an emergency start. Because it is not an emergency start, the EDG is not required to start under those conditions.

C. The NRC Has Previously Accepted the PNPP EDG Design Configuration

A PNPP Safety Evaluation Report (SER), dated May 1982, references Branch Technical Position ICSB 17 (PSB), for Appendix 8A of NUREG-0800, which states in relevant part:

diesel generator protective trips [are] bypassed when the diesel generator is required for a design-basis event.

All protective trips are allowed during periodic testing. The allowed exceptions to the above requirement for bypassing are diesel engine overspeed and generator differential current. Any other trips retained must utilize coincident logic in order to avoid spurious trips. In case of a design-basis accident, the design is such that all the protective trips except engine overspeed and generator differential are bypassed. This is in conformance with the staff's position, and is, therefore acceptable.

The staff requires that, upon receipt of a LOCA signal when in test mode, the diesel generator breaker should trip. The feature of tripping the diesel generator in case of a LOCA was not included in the Perry design and after discussion with the applicant, he was committed to comply with the above concern.

Subsequent to the issuance of that above SER, the NRC staff reviewed the control logic for the PNPP EDGs. PNPP Supplemental to Safety Evaluation Report (SSER 7), dated November 1985, Section 8.4, states:

The NRC raised a concern about the diesel generator design feature needed to override the test mode in response to LOCA signals. The NRC staff developed the position that, upon receipt of a LOCA signal when in test mode, the diesel generator breaker should trip. During a site visit, the staff reviewed the elementary diagram for the diesel generator breakers and found that the diesel generator did not have this design feature. To comply with the staff position, the applicant submitted a modified design shown on elementary diagrams transmitted by letter dated May 9, 1985. The modified design ensured that the "diesel generator control circuits [would] automatically change from the test to the emergency standby mode if a safety injection occurs during the test". The NRC staff concluded that the modified design feature on the Perry diesel generators complies with the staff's position and, therefore, this item was reviewed by the NRC and acceptably resolved.

That design change was implemented in July 1985. Consequently, PNPP complies with the original Licensing Basis for starting the EDGs during an emergency. If required to comply with the above non-cited violation, FENOC would likely consider the change in design a backfit under 10 CFR 50.109, "Backfitting."

Under Section 50.109(a)(3), the NRC will require a backfit only when there is a "substantial increase in the overall protection of the public health and safety or the common defense and security...." There is no evidence that modification of the EDG start logic would result in any increase in the overall protection of the public health and safety, let alone a substantial increase. Moreover, the only applicable exception to this provision, as found in Section 50.109(a)(4), is where "a modification is necessary to bring a facility into compliance with a license ... or into conformance with written commitments by the licensee...." As discussed above, however, because the PNPP EDG start logic is already within the current PNPP design and licensing bases, Section 50.109(a)(4) does not apply here. Consequently, modification of the PNPP EDG start logic would not be required under Section 50.109.

III. Conclusion

For the reasons discussed above, FENOC believes that the PNPP EDGs are not required to start if they receive a start-diesel signal during the two minutes following an engine shutdown. Moreover, the PNPP FSAR and USAR indicate that a LOOP EDG start is not an emergency start. Because it is not an emergency start, the EDG is not required to start under those conditions. Finally, if FENOC is required to comply with the above non-cited violation, we would likely consider the change in design a backfit under 10 CFR 50.109, "Backfitting."

For these reasons, FENOC respectfully requests that the NRC withdraw NCV 05000440 / 2005003-14.

DISPUTE OF NON-CITED VIOLATION 05000440/2005003-26

I. RESTATEMENT OF THE NON-CITED VIOLATION

Requirements of 10 CFR 50.54(q) states, in part, that a licensee authorized to possess and operate a nuclear power reactor shall follow and maintain in effect emergency plans which meet the standards in 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," and the licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans. Contrary to this requirement, between May 2004 and the present, the licensee implemented changes to the Emergency Plan to allow the dual assignment of the shift HP [Health Physics] Technician as the interim OSCC, which decreased the effectiveness of the Emergency Plan.

II. BASIS FOR DISPUTING THE NON-CITED VIOLATION

As discussed below, FENOC is disputing the NCV for the following reasons:

A. Assigning the Shift HP Technician as the Interim OSCC Does Not Decrease the Effectiveness of the PNPP Emergency Plan

Two sections of the PNPP Emergency Plan, Revision 5, effective August 16, 1985, are applicable to this issue. Section 5.2.2 states in relevant part, "The Operations Support Center (OSC) will be the assembly point for Radiation Protection (RP) Section, Technical Section, and Maintenance Section personnel onsite *at the time of an emergency.*" (Emphasis added).

Moreover, Section 5.2.2.2 states in relevant part, "If applicable, the Shift Supervisor shall assign an interim OSC Coordinator from the personnel present in the OSC until the designated OSC Coordinator arrives."

This practice is acceptable because the dual assignment is only for an *interim* period until the permanent appointee can assume the assigned responsibilities. Since issuance of Revision 5 of the Emergency Plan, the Shift Supervisor title has been changed to the Shift Manager.

Personnel on site at the time of an emergency during back shift periods would be the minimum shift manning and the Emergency Plan allows the Shift Manager to assign an interim Operations Support Center (OSC) Coordinator (OSCC) from those personnel.

In summary, the PNPP Emergency Plan allows the Shift Manager to assign an interim OSCC from personnel in the OSC until the designated OSC Coordinator arrives at the facility. This provision of the current Emergency Plan was also in the Emergency Plan (revision 5, effective 8/16/85) approved by the NRC's "Safety Evaluation Report Related to the Operation of Perry Nuclear Power Plant, Unit 1 and 2," NUREG-0887 Supplement 7, dated November 1985. Therefore, the dual assignment of the shift HP technician as the interim OSCC does not constitute a decrease in the effectiveness of the PNPP Emergency Plan.

B. Preventing the Dual-Assignment of the Shift HP Technician as the Interim OSCC Would Constitute a Decrease in the Effectiveness of the PNPP Emergency Plan

The OSCC assists the Shift Manager in coordination of plant personnel to assess and mitigate the event. The OSC provides an assembly area to reduce control room congestion and to provide a focused area where personnel can be assigned to duties in support of emergency operations. The Shift Manager's ability to transfer the coordination function to an interim OSC

Coordinator quickly relieves him of some duties to allow him to concentrate on other emergency response functions.

The use of the RP Technician as interim OSC Coordinator does not defeat the purpose of relieving the shift complement of duties; instead it directly supports that concept. The Emergency Plan provision allowing the Shift Manager to assign anyone in the OSC as an interim OSCC supports the overall philosophy of timely activation of an emergency response facility.

The Shift Manager's specific selection of whom to assign as an interim OSC Coordinator depends upon the type of emergency event occurring at the plant. There are circumstances when it would be appropriate and other circumstances when it would be inappropriate to assign any person in the OSC if their specific knowledge and skill set was required outside of the OSC.

Based upon our discussions with the NRC inspection team during 95003 phase "C" on this topic, we feel it will be a benefit to reinforce this provision through training of Shift Managers, RP Technicians, and maintenance supervisors who could be assigned as interim OSC Coordinators. This additional training will emphasize factors to take into account when assigning an individual as an interim OSC Coordinator. These considerations will include the type of event or potential for a change in the type of event that might otherwise require the expertise of the individual being considered for assignment as the interim OSCC. Additionally, procedures will be revised as a method to give these considerations greater permanence. FENOC has entered the procedure revision and additional training as enhancement actions into the PNPP Corrective Action Program.

In summary, the subject Emergency Plan provision enables the Shift Manager to quickly delegate the duties of coordinating personnel resources and reduces the burden associated with this task. Reducing the capability to quickly transfer the burden of this task from the Shift Manager to the OSC would constitute a decrease in effectiveness of the Emergency Plan.

III. Conclusion

As discussed above, assigning the shift HP technician as the interim OSCC does not decrease the effectiveness of the PNPP Emergency Plan. Moreover, preventing this dual-assignment would actually constitute a decrease in the effectiveness of the Emergency Plan. Consequently, FENOC respectfully requests that the NRC withdraw NCV 05000440 / 2005003-26.