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L-98-105

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

Subject: Beaver Valley Power Station, Unit No. 1 and No. 2
BV-1 Docket No. 50-334, License No. DPR-66
BV-2 Docket No. 50-412, License No. NPF-73
Integrated Inspection Report 50-334/98-01 and 50-412/98-01
Reply to Notice of Violation

In response to NRC correspondence dated April 22, 1998, and in accordance with 10 CFR 2.201, the attached reply addresses the Notice of Violation transmitted with the subject inspection report.

If there are any questions concerning this response, please contact Mr. J. Arias at (412) 393-5203.

Sincerely,

for S. C. Jain

Attachment

c: Mr. D. S. Brinkman, Sr. Project Manager
Mr. D. M. Kern, Sr. Resident Inspector
Mr. H. J. Miller, NRC Region I Administrator
Ms. M. G. Evans, Chief, Project Branch 7, Division of Reactor Projects

DUQUESNE LIGHT COMPANY
Nuclear Power Division
Beaver Valley Power Station, Units No. 1 and No. 2

Reply to Notice of Violation

Integrated Inspection Report 50-334/98-01 and 50-412/98-01
Letter Dated April 22, 1998

VIOLATION A (Severity Level IV, Supplement I)

Description of Violation (50-334(412)/98-01-03)

10 CFR 50, Appendix B, Criterion XVI (Corrective Action), requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, deviations, defective material and equipment, and nonconformances are promptly identified and corrected.

Contrary to the above, conditions adverse to quality were not promptly corrected in that from November 1993 to March 1998, Duquesne Light Company failed to correct a known Unit 1 and Unit 2 Technical Specification (TS) deficiency (TS degraded voltage setpoints) in a timely manner. The TS degraded voltage setpoints were non-conservative in that the setpoints were not sufficient to maintain minimum voltage requirements for safety-related equipment. The licensee failed to submit a TS amendment request to correct the setpoints. In addition, station procedures were not properly revised to assure that the emergency diesel generator would receive an automatic start signal at or above the bus voltage required by design. Specifically, 1) the reference in the procedure identified the TS values (which were non-conservative) and not the determined design basis values; 2) the procedure did not have explicit acceptance criteria that the setpoints would be within the design basis values as listed in a procedural attachment; 3) the step to notify the shift supervisor that the relay was below allowable values identified the non-conservative TS value rather than the design basis value.

Reason for the Violation

The reason for the violation was inadequate corrective actions following the design process that established new design values for the degraded voltage Setpoints and Allowable Values, which also concluded that the existing values in the Technical Specifications (TS) were non-conservative. The inadequate administrative controls were the result of an incomplete translation of the design documentation into the plant surveillance procedures. The administrative controls continued to be used during the period the violation existed because various ongoing technical issues were being addressed in the determination of the "final" degraded voltage Setpoints and Allowable Values. In each case, submittal of a Technical Specification Amendment Request

(TSAR) was delayed pending resolution of each separate issue since each issue had the potential to change these design values and require an additional TS change. Continued pursuit of the resolution of each technical issue prior to submittal of a TSAR led to the failure to submit any TSAR in a timely manner.

Corrective Actions Taken and Results Achieved

1. Using the data from readily retrievable completed surveillances, a maintenance history review was performed of the as-found surveillance data for the degraded voltage setpoints from April 1995 to the present for Unit 1 and from October 1996 to the present for Unit 2. While not covering the entire period of the Notice of Violation, the results should be reasonably representative of the surveillance results for the entire period. The review discovered one instance where the as-found setting was below the design analysis value. The design analysis value corresponds to a TS Allowable Value. In this case, the as-found setting was approximately 0.1 volt below its design analysis value. The relay was then re-calibrated to the proper tolerance and returned to service. The Nuclear Engineering Department (NED) has evaluated this instance and has determined the safety significance of this occurrence to be minimal. In every other instance reviewed, the as-found values met the required design analysis values.

2. As a result of this Notice of Violation, the NED has performed additional reviews which have identified an additional instance of an inadequately administratively controlled TS, for which a TSAR was not submitted to the NRC. This instance involves Reactor Protection and Engineered Safety Feature (ESF) Setpoints and Allowable Values. As a result of this additional finding, a Multi-Discipline Analysis Team (MDAT) has been formed to evaluate the extent of this condition.

Corrective Actions That Will Be Taken to Avoid Further Violations

1. The Maintenance Surveillance Procedures used to perform the TS required surveillances of the degraded voltage Setpoints at each Unit are currently being revised to address the concerns identified in this Notice of Violation. These procedure revisions will be completed at each Unit prior to that Unit entering Mode 4. The TS ESF degraded voltage function is applicable in Modes 1 through 4 at both Units 1 and 2.

2. The design analysis documentation for the degraded voltage setpoints will be updated to incorporate the resolution of an outstanding technical issue which has the potential to affect the design basis value for the degraded voltage setpoints at each Unit. This will be completed at each Unit by the NED prior to that Unit entering Mode 4 from the present outage. Should this technical resolution require additional revisions to the

existing administrative controls to ensure adequate degraded voltage setpoints are maintained, this will also be completed at each Unit prior to that Unit entering Mode 4 from the present outage.

3. Following resolution of this outstanding technical issue including revisions to the technical analysis documentation, a Technical Specification Amendment Request (TSAR) will be submitted to the NRC for the degraded voltage Setpoints and Allowable Values at each Unit.

4. The MDAT will continue the review of the Reactor Protection and ESF Setpoints and Allowable Values to determine whether additional corrective actions are necessary. The MDAT will investigate the site processes and procedures used to identify and implement administrative controls for Technical Specification related items. Corrective actions to revise the processes and procedures that are identified as part of the MDAT review will be implemented at each Unit prior to that Unit entering Mode 4 from the present outage.

5. The NED Management will review the open NED backlog for other Technical Specification related items and take appropriate corrective actions as necessary at each Unit prior to that Unit entering Mode 4 from the present outage.

Date When Full Compliance Will Be Achieved

Full compliance for the specific issues of this Notice of Violation will be achieved at each BVPS Unit after completion of all required surveillance revisions, submittal of a Technical Specification Amendment Request (TSAR) for the degraded voltage Setpoints and Allowable Values, and approval of the TSAR for each Unit by the NRC. Adequate administrative controls will be established and maintained at each Unit for the degraded voltage Setpoint and Allowable Values pending approval of a TSAR by the NRC.

The establishment and maintenance of adequate administrative controls for the degraded voltage setpoints at each BVPS Unit prior to that Unit entering Mode 4 coupled with timely submittal of a TSAR will allow BVPS to meet the intent of full compliance pending NRC review and approval of the proposed TSAR.

VIOLATION B (Severity Level IV, Supplement I)

Description of Violation (50-412/98-01-05)

10 CFR 50, Appendix B, Criterion III (Design Control), requires, in part, that design changes shall be subject to design control measures commensurate with those applied to the original design.

Contrary to the above, on February 18, 1998, design control measures for a modification to the Unit 2 emergency diesel generators (EDGs) ground overcurrent trip isolation feature were inadequate. Specifically, the failure mode analysis for this design change did not fully evaluate failures of the quality assurance category 2 ground switch and resistor. The failure mode analysis also did not identify or evaluate an additional failure mode which had the potential to damage the EDG during surveillance testing if a fault occurred on the 4 kV line.

Reason for the Violation

The reason for the violation was determined to be an insufficient analysis and an inadequate understanding of the design bases by the engineers performing the modification. After the modification was implemented, it was determined that (1) a new failure mode had been created, and (2) the modification was not needed in order to meet the design basis requirements.

Corrective Actions Taken and Results Achieved

1. Technical Evaluation Report (TER 11704, Revision 1, was issued on March 7, 1998, to change the design of the emergency diesel generator ground protection back to its original design configuration. The revised TER also included a Failure Modes and Effects Analysis and QA Category Determination Worksheets which documented that the non-safety related QA classification of the motor operated ground switch and resistor are acceptable.

2. TER 11704, Revision 1, was installed to restore the emergency diesel generator ground protection back to its original design configuration. This was completed via MWR 070402 for EDG 2-1 on March 8, 1998, and via MWR 070403 for EDG 2-2 on March 9, 1998.

3. The emergency diesel generator ground protection issue was presented during Nuclear Engineering Department (NED) Engineering Support Personnel (ESP) Specific training to reinforce management expectations regarding the need to thoroughly understand the design and licensing bases requirements before making

any modifications. This training, included in ESP Class 98-1, was completed on March 31, 1998.

4. The Manager, Nuclear Engineering Department issued a letter (ND1MNE:8107 dated April 28, 1998) to all NED personnel to reinforce management expectations regarding the need to thoroughly understand the design and licensing bases requirements before making any modifications.

Corrective Actions That Will Be Taken to Avoid Further Violations

Nuclear Engineering Department Engineering Standard ES-E-003 will be revised by December 31, 1998, to document the design basis of the Unit 2 emergency diesel generator motor operated ground switch as it relates to compliance with Regulatory Guide 1.9, and to add a reference to TER 11704, Revision 1, which documented the QA Category determination.

Date When Full Compliance Will Be Achieved

Full compliance was achieved when the emergency diesel generator (EDG) ground protection for both EDGs was returned to its original design configuration via implementation of TER 11704, Revision 1 on March 9, 1998.