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Constellation Energy · EDF

CALVERT CLIFFS
NUCLEAR POWER PLANT

September 2, 2010

U. S. Nuclear Regulatory Commission
Washington, DC 20555

ATTENTION: Document Control Desk

SUBJECT: Calvert Cliffs Nuclear Power Plant
Unit Nos. 1 & 2; Docket Nos. 50-317 & 50-318
Reply to a Notice of Violation; EA-10-080 – NRC Special Inspection Report Nos. 50-317/10-006; 50-318/10-006

REFERENCES:

(a) Letter from Mr. M. L. Dapas (NRC) to Mr. G. H. Gellrich (CCNPP), dated August 3, 2010, Final Significance Determination of White Finding, with Assessment Follow-up, and Notice of Violation – Calvert Cliffs Nuclear Power Plant [NRC Special Inspection Report No. 05000317/2010006 and 05000318/2010006]

(b) Letter from Mr. D. C. Lew (NRC) to Mr. G. H. Gellrich (CCNPP), dated June 14, 2010, Calvert Cliffs Nuclear Power Plant - NRC Special Inspection Report 05000317/2010006 and 05000318/2010006; Preliminary White Finding

This letter provides Calvert Cliffs Nuclear Power Plant's response to the Notice of Violation attached to Reference (a), associated with a white finding. The white finding, described in detail in Reference (b), involved a failure to develop and implement scheduled preventative maintenance for safety-related Agastat E7000 series time delay relays used in the protective logic for the 2B Emergency Diesel Generator. This resulted in a failure of the time delay relay which caused the 2B Emergency Diesel Generator to trip when called upon to energize the 24 4 kV safety bus during an event on February 18, 2010. The Nuclear Regulatory Commission determined that the finding is a violation of Technical Specification 5.4.1, as described in the Notice of Violation attached to Reference (a). Our response to this Notice of Violation is provided in Attachment (1).

IE01
NRR

Should you have questions regarding this matter, please contact Mr. Douglas E. Lauver at (410) 495-5219.

Very truly yours,

GHG/ALS/bjd

Attachment: (1) Reply to a Notice of Violation; EA-10-080

cc: D. V. Pickett, NRC
M. L. Dapas, NRC
Resident Inspector, NRC
S. Gray, DNR
G. T. Dentel, NRC

ATTACHMENT (1)

REPLY TO A NOTICE OF VIOLATION; EA-10-080

Calvert Cliffs Nuclear Power Plant, LLC
September 2, 2010

ATTACHMENT (1)

REPLY TO A NOTICE OF VIOLATION; EA-10-080

During an NRC inspection, for which an exit was conducted on April 30, 2010, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

Technical Specification 5.4.1 states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978.

Section 9.b of Appendix A to Regulatory Guide 1.33 states, in part, that preventive maintenance schedules should be developed to specify inspection or replacement of parts that have a specific lifetime.

Engineering Change Package No. ES200100067, issued in March 2001, specified that a performance monitoring program would be used to meet the requirement for inspection or replacement of safety-related Agastat E7000 series time delay relays to ensure the continued reliability and operability beyond the vendor recommended 10-year lifetime.

Contrary to the above, the licensee failed to develop and implement scheduled preventive maintenance for Agastat E7000 series time delay relays. Specifically, subsequent to the approval of Engineering Change Package No. ES200100067, issued in March 2001, the licensee did not replace the relays within the vendor recommended 10-year lifetime, nor establish a performance monitoring program. Consequently, on February 18, 2010, an Agastat E7000 series time delay relay that had a lifetime in excess of 10 years, used in the 2B emergency diesel generator (EDG) protective logic, timed out early and failed to support a demand fast start and run of the 2B EDG. This resulted in the 2B EDG becoming inoperable with the resultant loss of alternating current to the 24 safeguards bus during the dual unit trip that occurred on February 18, 2010.

REASON FOR THE VIOLATION

As stated above, the subject violation was issued because Calvert Cliffs (CCNPP) failed to develop and implement scheduled preventive maintenance for Agastat E7000 series time delay relays. Specifically, subsequent to the approval of Engineering Change Package No. ES200100067, CCNPP did not replace the relays within the vendor recommended 10-year lifetime, nor establish a performance monitoring program. Consequently, on February 18, 2010, an Agastat E7000 series time delay relay that had a lifetime in excess of 10 years, used in the 2B EDG protective logic, timed out early and failed to support a demand fast start and run of the 2B EDG. The root cause investigation performed to address the 2B EDG failure identified failure to implement a sustainable performance based strategy for Agastat relays after implementing ES20010067 as a Root Cause. The engineering change package established the requirements for a relay monitoring program to track the performance of relays to ensure timely response to degradation, including replacement if required. However, the relay monitoring program requirement was not captured in site processes and procedures. Due to the stations failure to capture the relay monitoring process in formal site processes and procedures, the relay monitoring program was discontinued approximately one year after it was established, during station organizational changes.

CORRECTIVE STEPS THAT HAVE BEEN TAKEN AND RESULTS ACHIEVED

The following actions have been taken to address the cause of this violation and prevent future occurrences.

1. The subject Agastat E7000 series time delay relay used in the 2B EDG protective logic relay has been replaced. The subject Agastat E7000 series time delay relay used in the protective logic for the other

two similar Fairbanks Morse EDGs (1B EDG and 2A EDG) have also been replaced. Post-maintenance testing was performed satisfactorily for all three EDGs.

2. The maintenance strategy for all Agastat relays associated with the Fairbanks Morse EDGs has been revised to include testing every two years and replacement at or before ten years from date of manufacture.
3. Reviewed maintenance history (i.e., calibration data) from critical Agastat E7000 series relays. The data indicated the installed relays are acceptable (e.g., no signs of abnormal drift; and data indicates repeatable results).
4. Reviewed the Agastat relays installed in mitigating systems performance index systems that are used in critical timing applications. The review verified the relays are appropriate for the design specifications. We are currently trending performance such that deficient relays are replaced prior to failure.

CORRECTIVE STEPS THAT WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

1. A performance monitoring program will be developed and implemented to meet the requirement of Section 9.b of Appendix A to Regulatory Guide 1.33 for inspection or replacement of safety-related Agastat E7000 series time delay relays.
2. Training will be provided to station personnel on the lessons learned from this event.
3. ES200100067 will be reviewed to verify that it adequately considers all possible failure modes to justify performance based replacement.
4. Engineering change process procedures will be reviewed to determine if procedure changes are required to ensure administrative programs established within engineering change packages are implemented.

DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

The root cause of the subject issue is considered to be a failure to implement a performance based strategy for Agastat relays in lieu of a specific replacement periodicity. Corrective steps will be taken to ensure that for the subject relays, a performance monitoring program is developed and implemented to meet the requirements of Section 9.b of Appendix A to Regulatory Guide 1.33, as required by Technical Specification 5.4.1. Those corrective steps required to develop and implement the subject relay performance monitoring program are scheduled to be complete by January 15, 2011. As such, full compliance will be achieved at that time. An effectiveness review is planned to verify that the corrective steps were effective.