



Indian Point Energy Center
450 Broadway, GSB
P.O. Box 249
Buchanan, N.Y. 10511-0249
Tel (914) 254-6700

Robert Walpole
Licensing Manager
914-254-6710

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NL-12-060

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

SUBJECT: Report on Inoperable Gross Failed Fuel Detector
Indian Point Unit Number 3
Docket No. 50-286
License No. DPR-64

Dear Sir or Madam:

The purpose of this letter is to submit a report pursuant to Technical Specification (TS) 5.6.7 for two channels of Gross Failed Fuel Detector (GFFD) inoperable for greater than the TS allowed completion time. TS 3.3.3, Table 3.3.3-1, for Function 23, GFFD require two operable channels. The GFFD is provided to allow determination of reactor coolant system (RCS) radioactivity concentration and is satisfied by instrument loops R63A and R63B. The primary sample system provides sampling via RCS hot legs of RCS loop 1 and 3. The RCS sample is combined into a single sample line to feed Radiation Monitor R63A and R63B (GFFD) located outside containment. The combined sample line #59 for loops 1 and 3 penetrates containment and is equipped with two automatic containment isolation valves (CIV) (SP-AOV-956E and SP-AOV-956F) outside containment that are provided with seal water from the Isolation Valve Seal Water System (IVSWS). The seal water is injected into the piping between the closed isolation valves. The CIVs are air operated and are designed to fail closed on loss of power or air.

On April 14, 2012, at 19:36 hours, the control room was notified of steam emitting in the area of the hot leg sample CIV SP-AOV-956E and upon investigation it was determined that the CIV SP-AOV-956E packing gland box studs had one stud failed and another bent. Both CIVs were closed and their fuses removed. The closure of the sample line CIVs isolated sample flow to the GFFD. TS 3.6.9 (IVSWS) Condition A was entered at 19:36 hours for isolation of IVSW to line #59 to prevent leakage through degraded valve packing on valve SP-AOV-956E. TS 3.3.3 Condition C was entered at 19:38 hours, for an inoperable GFFD due to isolating the sample line. TS 3.3.3, Condition C.1 required action is to restore one channel to operable status in 7 days. Due to degraded valve SP-AOV-956E packing gland studs, a temporary modification installed a strong-back to replace the function provided by the packing box studs. The temporary modification was completed on April 17, 2012. TS 3.6.9 was exited when the installation of the temporary modification was completed. Valve SP-AOV-956E will remain in a closed de-energized position while the temporary modification is in place. As part of the temporary modification, remote position indication for the deactivated valve will be lost also.

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Automatic CIV position indication is a TS Table 3.3.3-1 Function (#9). This condition exceed the TS 3.3.3 Condition C allowed completion time. TS 3.3.3 Condition D, required action and associated completion time of Condition C not met requires entry into TS 3.3.3, Table 3.3.3-1 for the channel. TS Table 3.3.3-1 Function 23 (GFFD) and Function 9 (Automatic CIV Position) reference condition is Condition F. TS 3.3.3, Condition F requires a report be submitted to NRC within the next 14 days pursuant to TS 5.6.7. The report is to outline the alternate method of monitoring, the cause of the inoperability, and the plans and schedule for restoring the instrument to operable status.

- Alternate method of monitoring

The closure of valve SP-AOV-956E and SP-AOV-956F allows the remainder of the downstream portions of the sampling system (RHR and Internal Recirculation Pumps) to continue to be available. During isolation of the hot leg RCS sample line, normal reactor coolant sampling to meet the reactor coolant chemistry and radiochemistry sampling requirements will be from the demineralizer inlet sample pathway. This will obtain all required analysis; Dose Equivalent Iodine (DEI) and Dose equivalent Xenon (DEX) analysis, cc/Kg dissolved hydrogen and anions (Cl, F, SO₄). During accident conditions, sampling reactor coolant will be from the recirculation sump when the plant reaches the conditions to go on internal recirculation.

- Cause

Packing leakage identified in December 2011 had the packing torqued to prevent further leakage but an inspection in January 2012 identified continued leakage and valve packing box bolts degraded due to boric acid corrosion. The cause of the failure of the valve packing gland box studs was due to boric acid corrosion. The condition was recorded in the Indian Point Corrective Action Program (CAP) as condition report CR-IP3-2012-01086.

- Plans and schedule for restoring

The temporary modification installation is scheduled to remain in place until the next refueling outage scheduled for the spring of 2013 or an earlier outage of sufficient duration to repair/replace valve SP-AOV-956E and re-install limit switches.

If you have any questions or require additional information, please contact me.

Sincerely,



RW/cbr

cc: Mr. Douglas Pickett, Senior Project Manager, NRC NRR
Mr. William M. Dean, Regional Administrator, NRC Region I
NRC Senior Resident Inspectors Office
Mr. Francis J. Murray, Jr., President and CEO, NYSERDA
Mrs. Bridget Frymire, New York State Dept. of Public Service