



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

February 13, 2015

Mr. Bryan C. Hanson
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 – REVIEW OF STEAM
GENERATOR TUBE INSPECTION REPORT FOR FALL 2013 OUTAGE
(TAC NO. MF4192)

Dear Mr. Hanson:

By letters dated May 22, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14143A268), and November 17, 2014 (ADAMS Accession No. ML14322A152), Exelon Generating Company, LLC (Exelon or the licensee), submitted information summarizing the results of the fall 2013 steam generator tube inspections performed at Three Mile Island, Unit 1 (TMI-1). In a letter dated January 24, 2014 (ADAMS Accession No. ML14015A356), the U.S. Nuclear Regulatory Commission (NRC) staff summarized two conference calls that were held with the licensee during refueling outage (RFO) 20. By letter dated November 13, 2014 (ADAMS Accession No. ML14317A309), the NRC staff documented the results of inspections performed at TMI-1 in the fall of 2014.

The NRC staff has completed its review of these reports and concludes that the licensee provided the information required by the TMI-1 Technical Specifications and that no additional follow-up is required at this time. The NRC staff's review is enclosed.

Please contact me at 301-415-3100, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "John G. Lamb".

John G. Lamb, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-289

Enclosure:
As stated

cc: Distribution via Listserv

SUMMARY OF THE NRC STAFF REVIEW OF
STEAM GENERATOR TUBE INSPECTIONS FOR THE FALL 2013 REFUELING OUTAGE
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

DOCKET NO. 50-289

By letters dated May 22, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12143A406), and November 17, 2014 (ADAMS Accession No. ML14322A152), Exelon Generating Company, LLC (Exelon or the licensee), submitted information summarizing the results of the fall 2013 steam generator (SG) tube inspections performed at Three Mile Island, Unit 1 (TMI-1). In a letter dated January 24, 2014 (ADAMS Accession No. ML14015A356), the U.S. Nuclear Regulatory Commission (NRC) staff summarized two conference calls that were held with the licensee during refueling outage (RFO) 20. By letter dated November 13, 2014 (ADAMS Accession No. ML14317A309), the NRC staff documented the results of inspections performed at TMI-1 in the fall of 2014.

The two enhanced once-through SGs at TMI-1 were manufactured by AREVA. Each SG has 15,597 tubes made out of thermally treated Alloy 690. The tubes have a nominal outer diameter of 0.625 inches and a nominal wall thickness of 0.037 inches. The SGs contain 15 stainless steel tube support plates (TSPs) that primarily have broached tri-foil holes.

Exelon provided the scope, extent, methods, and results of its SG tube inspections in the documents referenced above. In addition, the licensee described corrective actions (e.g., tube plugging) taken in response to the inspection findings.

Based on its review of the reports submitted, the NRC staff has the following observations and comments:

- The fall 2013 inspections were the second SG tube inservice inspections performed since SG replacement in 2010. During RFO 20, 2,668 and 3,600 TSP wear indications were identified in SG A and SG B, respectively. One TSP wear indication had grown from undetectable in RFO 19, to approximately 63 percent through-wall by RFO 20. This indication and the licensee's condition monitoring operational assessment are discussed in the NRC inspection report dated November 13, 2014 (ADAMS Accession No. ML14317A309).
- During RFO 20, 115 and 314 tube-to-tube wear (TTW) indications were identified in SG A and SG B, respectively. There was one tube with 4 TTW flaws in the same span. These indications had a combined circumferential extent of 147 degrees.

Based on a review of the information provided, the NRC staff concludes that Exelon provided the information required by the Technical Specifications. In addition, the NRC staff concludes that there are no technical issues that warrant follow-up action at this time since the inspections appear to be consistent with the objective of detecting potential tube degradation and the inspection results appear to be consistent with industry operating experience at similarly designed and operated units.

Enclosure

February 9, 2015

Mr. Bryan C. Hanson
President and Chief Nuclear Officer
Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

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Sincerely,

/RA/

John G. Lamb, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

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ADAMS Accession Number: **ML15043A144**

*via memo

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