March 19, 2007

Mr. Michael R. Kansler
President
Entergy Nuclear Operations, Inc.
440 Hamilton Avenue
White Plains, NY 10601

SUBJECT: INDIAN POINT NUCLEAR GENERATING UNIT NO. 2 - SUMMARY OF THE STAFF'S REVIEW OF THE 2006 STEAM GENERATOR TUBE INSERVICE INSPECTION REPORTS FOR REFUELING OUTAGE 17 (TAC NO. MD2783)

Dear Mr. Kansler:

By letter dated June 14, 2006, Agencywide Documents Access and Management System (ADAMS) accession number ML061780303, Entergy Nuclear Operations, Inc. (Entergy) submitted the steam generator (SG) inspection report for Refueling Outage 17 (RFO 17) in accordance with Technical Specification (TS) Section 5.5.7.f.2. Additional information regarding the 2006 SG tube inspections for RFO 17 was provided by Entergy in letters dated February 13, 2006 (ML060530378), March 29, 2006 (ML061000616), and November 15, 2006 (ML063240144).

The Nuclear Regulatory Commission staff has completed its review of these reports and concludes that Entergy provided the information required by Indian Point Unit 2 TSs and that no additional follow-up is required at this time. The staff's review of the reports is enclosed.

Please contact me at (301) 415-2901 if you have any questions on this issue.

Sincerely,

/RA/

John P. Boska, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-247

Enclosure:
As stated

cc w/encl: See next page

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ADAMS ACCESSION NUMBER: ML070710007 *See memo dated 1/19/07

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INDIAN POINT UNIT 2

SUMMARY OF THE STAFF'S REVIEW OF THE STEAM GENERATOR TUBE

INSERVICE INSPECTION REPORTS FOR REFUELING OUTAGE 17

DOCKET NO. 50-247

By letter dated June 14, 2006, Agencywide Documents Access and Management System (ADAMS) accession number ML061780303, Entergy Nuclear Operations, Inc. (Entergy or the licensee) submitted the steam generator (SG) inspection report for Refueling Outage 17 (RFO 17) in accordance with Technical Specification (TS) Section 5.5.7.f.2. Additional information regarding the 2006 SG tube inspections for RFO 17 was provided by Entergy in letters dated February 13, 2006 (ML060530378), March 29, 2006 (ML061000616), and November 15, 2006 (ML063240144).

Indian Point Unit 2 SGs are replacement SGs which were installed during RFO 14 in 2000. The replacement SGs are Westinghouse model 44F SGs and are designated SG21 through SG24. All four SGs were inspected during RFO 17. The 44F SG contains approximately 3,214 thermally treated Alloy 600 tubes which have an outside diameter of 0.875-inch and a 0.050-inch nominal wall thickness. The tubes are supported by stainless steel plates with quatrefoil-shaped holes and V-shaped anti-vibration bars.

The licensee provided the scope, extent, methods, and results of the Indian Point Unit 2 SG tube inspections in the documents referenced above. In addition, the licensee described corrective actions (i.e., tube plugging) taken in response to the inspection findings.

The Nuclear Regulatory Commission (NRC) staff has the following notes/observations as a result of reviewing the aforementioned submittals:

- Several tubes were identified with permeability variations. The size of the permeability variations could limit the ability to reliably detect degradation; however, given the limited service time on the replacement SGs and the results of the inspections of other tubes without permeability variations, it is reasonable not to suspect degradation is occurring at locations with permeability variations. The licensee's long-term strategy for the tubes with permeability variations is to keep them in service until degradation is anticipated at the locations with the permeability variation, at which time the tubes will be preventatively plugged unless new inspection techniques are developed that can reliably inspect these locations.

- Although the licensee planned to perform a visual inspection of the top of the flow distribution baffle in all four SGs (refer to the February 13, 2006 letter), the licensee subsequently determined this inspection to be unnecessary and it was not performed.

Enclosure

- A visual inspection of the top tube support plate was performed in two SGs. No degradation was found during the inspections; however, a very thin layer of deposits on the upper surface of the support plate and in the area between the tube hole land and the tubes was found.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by their TSs. 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.