



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

December 19, 2011

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT – REVIEW OF THE 2010 STEAM GENERATOR
TUBE INSPECTIONS DURING REFUELING OUTAGE 21 (TAC NO. ME6102)

Dear Sir or Madam:

By letter dated April 25, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11119A040), and supplemented by letter dated September 26, 2011 (ADAMS Accession No. ML112700011), Entergy Nuclear Operations, Inc (the licensee), submitted the results of their 2010 steam generator (SG) tube inspections performed during refueling outage 21 at Palisades Nuclear Plant (Palisades). In addition to these reports, the staff summarized a conference call held with the licensee concerning the 2010 SG tube inspections, in a letter dated January 5, 2011 (ADAMS Accession No. ML103640046).

The NRC staff has completed its review of these reports and concludes that the licensee provided the information required by the Palisades Technical Specifications. No additional follow up is required at this time. The staff's review is enclosed. If you have any questions regarding this matter, I may be reached at 301-415-8371.

Sincerely,

A handwritten signature in black ink, appearing to read "Mahesh Chawla".

Mahesh Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:
Review of Inspection Summary Report

cc w/encl: Distribution via ListServ

PALISADES NUCLEAR PLANT

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

INSPECTIONS FOR REFUELING OUTAGE 21

TAC NO. ME6102

DOCKET NO. 50-255

By letter dated April 25, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11119A040), and supplemented by letter dated September 26, 2011 (ADAMS Accession No. ML112700011), Entergy Nuclear Operations, Inc (the licensee), submitted the results of their 2010 steam generator (SG) tube inspections performed during refueling outage 21 at Palisades Nuclear Plant (Palisades). In addition to these reports, the staff summarized a conference call held with the licensee concerning the 2010 SG tube inspections, in a letter dated January 5, 2011 (ADAMS Accession No. ML103640046).

Palisades Nuclear Plant has two Combustion Engineering Model 2530 replacement SGs. Each SG has 8,219 mill-annealed, Alloy 600 tubes. The tubes have an outside diameter of 0.75 inches, and a wall thickness of 0.042 inches. The tubes were expanded through the full depth of the tubesheet using an explosive process.

The licensee provided the scope, extent, methods, and results of their steam generator 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.

After review of the information provided by the licensee, the NRC staff has the following comments/observations:

- The licensee reported that an axial stress corrosion crack indication was detected in SG A, row 2 column 121, in the U-bend region. This indication was initially dispositioned as having a ding. Upon further review, the licensee stated that a ding-like signal response is not detectable with the +Point examination. The indication is characterized as an axial crack in the small radius U-bend. As a result of the indication, the licensee expanded the scope of +Point inspections to include all row three U-bend tubes. No further indications were reported.
- The licensee stated that an axial outside diameter stress corrosion crack (ODSCC) indication was identified in SG B, row 85 column 44, at an elevation coincident with a 3.14-volt ding. This tube contained numerous dings greater than 5.0 volts between the 06H and 07H supports. A review of the bobbin data indicated that a reportable bobbin signal was present at this location but not reported. As a result, a review of the less-than-5.0-volt ding was performed by the licensee to ensure no other indications meeting the reporting criteria were present. The licensee stated that no additional indications were detected.

Enclosure

- No tube-to-tube wear was observed during the 2010 inspections.
- Three tubes were in-situ pressure tested to a pressure greater than three times the normal operating differential pressure. During these tests, there was no leakage observed and the tubes did not burst.
- Based on a review of the information provided, the staff concludes that the licensee provided the information required by the Palisades Technical Specifications. In addition, the 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.

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

December 19, 2011

**SUBJECT: PALISADES NUCLEAR PLANT – REVIEW OF THE 2010 STEAM GENERATOR
TUBE INSPECTIONS DURING REFUELING OUTAGE 21 (TAC NO. ME6102)**

Dear Sir or Madam:

By letter dated April 25, 2011 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML11119A040), and supplemented by letter dated September 26, 2011 (ADAMS Accession No. ML112700011), Entergy Nuclear Operations, Inc (the licensee), submitted the results of their 2010 steam generator (SG) tube inspections performed during refueling outage 21 at Palisades Nuclear Plant (Palisades). In addition to these reports, the staff summarized a conference call held with the licensee concerning the 2010 SG tube inspections, in a letter dated January 5, 2011 (ADAMS Accession No. ML103640046).

The NRC staff has completed its review of these reports and concludes that the licensee provided the information required by the Palisades Technical Specifications. No additional follow up is required at this time. The staff's review is enclosed. If you have any questions regarding this matter, I may be reached at 301-415-8371.

Sincerely,
/RA/

Mahesh Chawla, Project Manager
Plant Licensing Branch III-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosure:
Review of Inspection Summary Report

cc w/encl: Distribution via ListServ

DISTRIBUTION:

PUBLIC	LPL3-1 R/F	RidsNrrDorIDpr Resource	RidsOgcRp Resource
RidsAcrcAcnw_MailCTR Resource		RidsRgn3MailCenter Resource	AObodoako, NRR
RidsNrrDorLpl3-1 Resource		RidsNrrDssSrxb Resource	KKarwoski, NRR
RidsNrrLABTully Resource		RidsNrrPMPalisades Resource	

ADAMS Accession No: ML113420512

OFFICE	NRR/LPL3-1/PM	NRR/LPL3-1/LA	DE/ESGB/BC	NRR/LPL3-1/BC	NRR/LPL3-1/PM
NAME	MChawla	BTully	VCusumano	SWilliams	MChawla
DATE	12/12/11	12/12/11	12/14/11	12/16/11	12/19/11

OFFICIAL RECORD COPY