



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

August 29, 2013

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 STEAM GENERATOR
TUBE INSPECTION REPORT FOR THE SPRING 2012 REFUELING OUTAGE
(TAC NO ME9924)

Dear Sir or Madam:

By letter dated November 01, 2012 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML12306A534), as supplemented by letter dated May 28, 2013 (ADAMS Accession No. ML13151A046), Entergy Nuclear Operations, Inc. (ENO, the licensee) submitted information to the U.S. Nuclear Regulatory Commission (NRC) summarizing the results of the 2012 steam generator tube inspections at Palisades Nuclear Plant (PNP). In addition to this report, the NRC staff summarized a conference call about the 2012 steam generator tube inspections at PNP in a letter to the licensee dated June 21, 2012 (ADAMS Accession No. ML12165A389).

The NRC staff has completed its review of the report and concludes that the licensee provided the information required by the PNP Technical Specifications. No additional follow up is required at this time. The NRC staff's review is enclosed. If you have any questions or concerns, please contact me at 301-415-8371 or Mahesh.Chawla@nrc.gov.

Sincerely,

A handwritten signature in cursive script that reads "Chawla".

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

Docket No. 50-255

Enclosure:
NRC staff's review of the steam
generator tube

Cc w/encl: Distribution via Listserv

PALISADES NUCLEAR PLANT

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

INSERVICE INSPECTION REPORT FOR THE 2012 REFUELING OUTAGE

DOCKET NUMBER 50-255

By letter dated November 01, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession Number ML12306A534), Entergy Nuclear Operations, Inc., the licensee, submitted information pertaining to their 2012 steam generator (SG) tube inspections at the Palisades Nuclear Plant (PNP). The licensee provided additional information regarding the SG inspections in a letter dated May 28, 2013 (ADAMS Accession Number ML13151A046). In addition to this report, the U.S. Nuclear Regulatory Commission (NRC) staff summarized a conference call about the 2012 SG tube inspections at Palisades in a letter dated June 21, 2012 (ADAMS Accession Number ML12165A389).

PNP 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:

- There was no tube-to-tube wear detected in either SG A or SG B during the inspection.
- A steam drum inspection of SG B was performed. The feed ring, J-nozzles, welds, and support brackets were inspected with no abnormalities noted. Three J-nozzles were inspected internally for erosion and none was observed. Nine randomly spaced separator cans were inspected with no erosion issues noted; however, there was a slight amount of surface related corrosion at the base of the cans. The chevron separators, the main steam nozzle, and the deflection plate were inspected and all components were found to be in good condition with no degradation noted.
- One tube had a freespan axial outside diameter stress corrosion cracking indication. The indication was associated with a ding whose voltage amplitude was less than 2.0 volts. The indication was detected during the bobbin coil inspection.
- There were no cracks detected at historical wear locations within eggcrates, diagonal bars, or vertical straps. All new wear indications were inspected with a +Point™ rotating pancake coil to characterize the indications.

Enclosure

- There are small demister wires in both SGs. The sources of these wires were moisture separator reheaters that were installed prior to refueling outage 21 (Fall 2010). The source was eliminated with the replacement of the moisture separator reheaters. The demister wires are 0.06-inches in diameter and are constructed of type 304 stainless steel. No tube wear has been associated with the wires.

Based on a review of the information provided by the licensee, the staff concludes that the licensee provided the information required by their technical specifications. The SG tube inspections at PNP 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

August 29, 2013

SUBJECT: PALISADES NUCLEAR PLANT – REVIEW OF THE STEAM GENERATOR
TUBE INSPECTION REPORT FOR THE SPRING 2012 REFUELING OUTAGE
(TAC NO ME9924)

Dear Sir or Madam:

By letter dated November 01, 2012 (Agencywide Documents Access and Management Systems (ADAMS) Accession No. ML12306A534), as supplemented by letter dated May 28, 2013 (ADAMS Accession No. ML13151A046), Entergy Nuclear Operations, Inc. (ENO, the licensee) submitted information to the U.S. Nuclear Regulatory Commission (NRC) summarizing the results of the 2012 steam generator tube inspections at Palisades Nuclear Plant (PNP). In addition to this report, the NRC staff summarized a conference call about the 2012 steam generator tube inspections at PNP in a letter to the licensee dated June 21, 2012 (ADAMS Accession No. ML12165A389).

The NRC staff has completed its review of the report and concludes that the licensee provided the information required by the PNP Technical Specifications. No additional follow up is required at this time. The NRC staff's review is enclosed. If you have any questions or concerns, please contact me at 301-415-8371 or Mahesh.Chawla@nrc.gov.

Sincerely,

/RA/

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

Docket No. 50-255

Enclosure:
NRC staff's review of the steam
generator tube

cc w/encl: Distribution via Listserv

DISTRIBUTION:

PUBLIC	LPL3-1 R/F	RidsAcrcsAcnw_MailCTR Resource
RidsNrrDorDpr Resource	RidsNrrDorLpl3-1Resource	RidsNrrLAMHenderson Resource
RidsNrrPMPalisades Resource	RidsOgcMailCenter Resource	RidsRgn3MailCenter Resource
RidsNrrDeEsgb Resource	KKarwoski, NRR	AJohnson, NRR

ADAMS Accession No.: ML13225A598

*See memo dated 7/26/2013

OFFICE	LP3-1/PM	LPL3-1/LA	ESGB/BC*	LP3-1/BC	LPL3-1/PM
NAME	MChawla	MHenderson	GKulesa	RCarlson	MChawla
DATE	08/28/13	08/19/13	07/26/13	08/29/13	08/29/13

OFFICIAL RECORD COPY