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

June 15, 2015

Mr. Scott Batson
Site Vice President
Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 - REVIEW OF THE SPRING 2014 STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT DURING REFUELING OUTAGE 27 (TAC NO. MF5420)

Dear Mr. Batson:

By letter dated August 12, 2014, Duke Power Company (the licensee) submitted information summarizing the results of the spring 2014 steam generator tube inservice inspections performed at Oconee Nuclear Station, Unit 3. These inspections were performed during refueling outage 27.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of this report and concludes that the licensee provided the information required by their technical specifications and that no additional follow-up is required at this time. A summary of the NRC staff's review is enclosed. This completes the NRC staff efforts for TAC No. MF5420. If you have any questions, please contact me at (301) 415-4032.

Sincerely,

Jeffrey A. Whited for

James R. Hall, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-287

Enclosure:
As stated

cc w/encls: Distribution via Listserv

REVIEW OF THE SPRING 2014

STEAM GENERATOR TUBE INSERVICE INSPECTIONS

OCONEE NUCLEAR STATION, UNIT 3

DOCKET NO. 50-287

By letter dated August 12, 2014 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML14237A050), Duke Power Company (the licensee) submitted information summarizing the results of the spring 2014 steam generator (SG) tube inservice inspections (ISI) performed at Oconee Nuclear Station (Oconee), Unit 3. These inspections were performed during refueling outage 27 (RFO 27).

Oconee Unit 3 is a two-loop pressurized-water reactor with replacement once-through steam generators (ROTSGs) manufactured by Babcock & Wilcox International. The Oconee, Unit 3, ROTSGs were installed during the fall 2004 refueling outage. The ROTSGs contain 15,631 thermally treated Alloy 690 tubes that have been hydraulically expanded into the tubesheet to a depth of 13 inches. The tubes have an outside diameter of 0.625 inches and a nominal wall thickness of 0.038 inches. There are 15 Type 410 stainless steel tube support plates (TSP) of trefoil broach design; however, there are some round drilled openings at the 14th TSP.

On May 14, 2015, the U.S. Nuclear Regulatory Commission (NRC) staff held a conference call with the licensee to clarify the results submitted in the spring 2014 SG tube ISI report. The following is a summary of the results discussed during the call:

- As of RFO 27, the SGs had operated 103.2 effective full power months since replacement.

- No degradation was observed during the visual inspections of the SG tube plugs and the visual inspections of the SG inlet and outlet bowls.

- The licensee provided the number of TSP wear and tube-to-tube wear (TTW) indications identified during RFO 26 and RFO 27. The number of indications is summarized in the following table:

Wear	ROTSG	Outage	Tubes	Indications
TSP wear	SG A	RFO 26	8,248	14,824
		RFO 27	10,042	20,933
	SG B	RFO 26	4,724	6,821
		RFO 27	5,684	8,916
TTW	SG A	RFO 26	58	84
		RFO 27	63	90
	SG B	RFO 26	32	42
		RFO 27	37	48

Enclosure

- For SG A, the 95th percentile growth rate for TSP wear was 2.9 percent and 3.3 percent for RFO 26 and RFO 27, respectively. For SG B, the 95th percentile growth rate for wear was 3.6 percent and 2.7 percent for RFO 26 and RFO 27, respectively. The licensee noted the 95th percentile growth rate for TSP wear in the six SGs in the three units at the Oconee site was approximately 3 percent.

- The licensee believes a loose part caused the dent on tube 25 in row 17 in SG. This tube was removed from service by plugging. There have been 6 possible loose part (PLP) indications in SG A and 1 PLP in SG B since installation. Tube wear due to PLPs has not been identified at Oconee, Unit 3.

The licensee provided the scope, extent, methods, and results of their SG tube inspections in the document and conference call referenced above. In addition, the licensee described corrective actions (i.e., tube plugging) taken in response to the inspection findings.

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

June 15, 2015

Mr. Scott Batson
Site Vice President
Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 - REVIEW OF THE SPRING 2014 STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT DURING REFUELING OUTAGE 27 (TAC NO. MF5420)

Dear Mr. Batson:

By letter dated August 12, 2014, Duke Power Company (the licensee) submitted information summarizing the results of the spring 2014 steam generator tube inservice inspections performed at Oconee Nuclear Station, Unit 3. These inspections were performed during refueling outage 27.

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of this report and concludes that the licensee provided the information required by their technical specifications and that no additional follow-up is required at this time. A summary of the NRC staff's review is enclosed. This completes the NRC staff efforts for TAC No. MF5420. If you have any questions, please contact me at (301) 415-4032.

Sincerely,
/RA/ Jeffrey A. Whited for
James R. Hall, Senior Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-287

Enclosure:
As stated

cc w/encls: Distribution via Listserv

DISTRIBUTION:

Public	RidsOgcRp Resource	KKarwoski, NRR
LPL2-1 R/F	RidsRgn2MailCenter Resource	GKulesa, NRR
RidsNrrDorlLpl2-1 Resource	RidsAcrsAcnw_MailCTR Resource	AJohnson, NRR
RidsNrrLASFigueroa Resource	RidsNrrDeEsgb Resource	AHuyng, NRR
RidsNrrPMOconee Resource	JWhited, NRR	

ADAMS Accession No. ML15161A420 *** via memo**

OFFICE	DORL/LPL2-1/PM	DORL/LPL2-1/LA	DE/ESGB/BC*	DORL/LPL2-1/BC	DORL/LPL2-1/PM
NAME	JWhited	SFigueroa	GKulesa	RPascarelli	JHall (JWhited for)
DATE	06/15/15	06/10/15	06/04/15	06/15/15	06/15/15

OFFICIAL RECORD COPY