



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

February 26, 2019

Mr. J. Ed Burchfield, Jr.
Vice President, Oconee Nuclear Station
Duke Energy Carolinas, LLC
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 – REVIEW OF STEAM GENERATOR
INSERVICE INSPECTION REPORT FOR UNIT 3 END OF CYCLE 29
REFUELING OUTAGE (EPID L-2018-LRO-0030)

Dear Mr. Burchfield:

By letter RA-18-0138 dated August 15, 2018, Duke Energy Carolinas, LLC (the licensee) submitted its steam generator tube inspection report for Oconee Nuclear Station, Unit 3 (Oconee 3) in accordance with Technical Specification (TS) 5.6.8, "Steam Generator Tube Inspection Report." The report summarizes the steam generator tube inspections that the licensee performed during the Oconee 3 Cycle 29 refueling outage in the spring of 2018. The U.S. Nuclear Regulatory Commission (NRC) staff reviewed the submittal and concludes that the licensee provided the information required by TS 5.6.8. The enclosure documents the NRC staff's review of the submittal and completes the NRC staff's efforts for Enterprise Project Identifier (EPID) L-018-LRO-0030. Any inquiries can be directed to Ms. Audrey Klett at 301-415-0489 or via e-mail at Audrey.Klett@nrc.gov.

Sincerely,

A handwritten signature in black ink, appearing to be "AK", is located below the "Sincerely," text.

Audrey Klett, Project Manager
Plant Licensing Branch II-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-287

Enclosure:
As stated

cc Listserv



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

REVIEW BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SPRING 2018 STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT

DUKE ENERGY CAROLINAS, LLC

OCONEE NUCLEAR STATION, UNIT 3

DOCKET NO. 50-287

By letter RA-18-0138 dated August 15, 2018 (Agencywide Documents Access and Management Systems Accession No. ML18235A502), Duke Energy Carolinas, LLC (the licensee) submitted information summarizing the results of the steam generator (SG) tube inspections performed at Oconee Nuclear Station, Unit 3 (Oconee 3), during refueling outage (RFO) 29 in the spring of 2018. Oconee 3 is a two-loop pressurized-water reactor with replacement once-through steam generators (ROTSGs) manufactured by Babcock & Wilcox (B&W), Canada. The licensee installed the ROTSGs 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. Tube support is provided by 15 Type 410 stainless steel tube support plates (TSP) of trifoil broach design; however, there are some round drilled openings at the 14th TSP.

The licensee provided the scope, extent, methods, and results of its SG tube inspections in its letter dated August 15, 2018. In addition, the licensee described corrective actions (e.g., tube plugging) taken in response to the inspection findings. The first inservice inspection of the ROTSGs at Oconee 3 in the spring of 2006 revealed widespread TSP wear degradation of the tubing at TSP locations. Oconee 1 and 2 have also experienced this widespread TSP wear degradation. The licensee has managed this degradation with no loss of tube integrity.

Based on a review of the information provided, the U.S. Nuclear Regulatory Commission staff concludes that the licensee provided the information required by its Technical Specifications. In addition, the staff concludes that there are no technical issues that warrant follow-up action at this time because the inspections appear to be consistent with the objective of detecting potential tube degradation. Most of the inspection results appear to be consistent with industry operating experience at similarly designed and operated units (with the exception of the large number of TSP wear indications).

Principal Contributor: A. Johnson, NRR/DMLR/MCCB

Date: February 26, 2019

Enclosure

SUBJECT: OCONEE NUCLEAR STATION, UNIT 3 – REVIEW OF STEAM GENERATOR
INSERVICE INSPECTION REPORT FOR UNIT 3 END OF CYCLE 29
REFUELING OUTAGE (EPID L-2018-LRO-0030)
DATED REBRUARY 26, 2019

DISTRIBUTION:

PUBLIC

LPLII-1 R/F

RidsNrrPMOconee Resource

RidsNrrLAKGoldstein Resource

RidsNrrDorLp2-1 Resource

RidsACRS_MailCtr Resource

RidsRgn2MailCenter Resource

RidsNrrDlmrMccb Resource

SBloom, NRR/DMLR

Paul Klein, NRR/DMLR

Alan Huynh, NRR/DMLR

Andrew Johnson, NRR/DMLR

ADAMS Accession No.: ML19052A004

***by email**

| | | | |
|--------|---------------|---------------|-------------------|
| OFFICE | NRR/LPL2-1/PM | NRR/LPL2-1/LA | NRR/DMLR/MCCB/BC* |
| NAME | AKlett | KGoldstein | SBloom |
| DATE | 2/19/19 | 02/25/19 | 2/14/19 |
| OFFICE | NRR/LPL2-1/BC | NRR/LPL2-1/PM | |
| NAME | MMarkley | AKlett | |
| DATE | 02/26/19 | 02/26/19 | |

OFFICIAL RECORD COPY