



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

August 20, 2015

Mr. Bryan C. Hanson  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO)  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BYRON NUCLEAR POWER STATION, UNIT 2 - REVIEW OF FALL 2014  
STEAM GENERATOR TUBE INSERVICE INSPECTION REPORT  
(TAC NO. MF5776)

Dear Mr. Hanson:

By letters to the U.S. Nuclear Regulatory Commission (NRC) dated February 20, 2015 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML15051A312), and July 17, 2015 (ADAMS Accession No. 15198A069), Exelon Generation Company, LLC (the licensee), submitted information pertaining to the 2014 steam generator tube inspections at Byron Nuclear Power Station, Unit 2, in accordance with the station's technical specifications (TSs). This inspection was conducted during the 18th refueling outage.

The NRC staff has completed its review of the report and concludes that the licensee has provided the information required by the station's TSs, and that no additional follow-up is required at this time. A copy of the NRC staff's evaluation is enclosed.

Sincerely,

A handwritten signature in black ink, appearing to read "Joel S. Wiebe", is positioned above the typed name and title.

Joel S. Wiebe, Sr. Project Manager  
Plant Licensing III-2 and  
Planning and Analysis Branch  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. STN 50-455

Enclosure:  
Review of Fall 2014 Steam Generator  
Tube Inservice Inspections

cc w/encl: Distribution via ListServ

REVIEW OF THE FALL 2014  
STEAM GENERATOR TUBE INSERVICE INSPECTIONS

BYRON NUCLEAR POWER STATION UNIT 2

TAC NO. MF5776

DOCKET NO. 50-455

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Byron, Unit 2, has four Westinghouse Model D5 SGs. There are 4,570 thermally treated Alloy 600 tubes in each SG, with a nominal outside diameter of 0.750 inches and a nominal wall thickness of 0.043 inches. The tubes are hydraulically expanded for the full depth of the tubesheet at each end and are welded to the tubesheet at the bottom of each expansion. The tubes are supported by a number of Type 405 stainless steel supports with quatrefoil shaped holes.

The licensee provided the scope, extent, methods and results of their SG tube inspections in the document referenced above. In addition, the licensee described corrective actions (i.e., tube plugging) taken in response to the inspection findings. The tubes in all SGs were inspected at this outage.

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

- All dents identified during RFO 18 were also present in the RFO 16 eddy current data. Based on the voltage signal changes between RFO 16 and RFO 18, the licensee concluded that the dents located at the 03C tube support plate (TSP) in SG 2B are not progressing. A sample of dents were inspected to determine their orientation. All dents in this sample were pointing to the divider plate. This led the licensee to conclude the TSP moved or shifted sometime prior to RFO 16 (when the dents were discovered).
- Visual inspections, supplemented by ultrasonic thickness measurements, were performed on the secondary side moisture separators in SGs A and D. The results showed erosion wear is present and progressing slowly. The minimum component thickness was measured to be 0.144 inches (nominal thickness is 0.25 inches). No repairs were performed. The licensee concluded that a two-cycle inspection interval was justified for the moisture separators in all four SGs.

Based on a review of the information provided, the NRC staff concludes that the licensee provided the information required by the Byron, Unit 2, 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 the possible exception of the denting observed in SG B at tube support 03C) with industry operating experience at similarly designed and operated units.

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Sincerely,

/RA/

Joel S. Wiebe, Sr. Project Manager  
Plant Licensing III-2 and  
Planning and Analysis Branch  
Division of Operating Reactor Licensing  
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