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

January 17, 2018

Mr. Joel P. Gebbie
Senior Vice President and
Chief Nuclear Officer
Indiana Michigan Power Company
Nuclear Generation Group
One Cook Place
Bridgman, MI 49106

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT 2 – REVIEW OF THE FALL 2016 STEAM GENERATOR TUBE INSPECTIONS REPORT (CAC NO. MF9743; EPID L-2017-LRO-0016)

Dear Mr. Gebbie:

By letter dated May 24, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17150A304), Indiana Michigan Power Company (the licensee) submitted information summarizing the results of the fall 2016 steam generator inspections for the Donald C. Cook Nuclear Plant (CNP), Unit 2.

The NRC staff has completed its review of the information provided and concludes that the licensee provided the information required by the CNP, Unit 2, technical specifications. No additional follow-up is required at this time. Please feel free to contact me at (301) 415-1530 if you have any questions or concerns.

Sincerely,

Jennivine K. Rankin, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-316

Enclosure:
Review of the Fall 2016 Steam Generator Tube
Inspection Report

cc: Listserv

REVIEW OF THE FALL 2016 STEAM GENERATOR TUBE INSPECTION REPORT

DONALD C. COOK NUCLEAR PLANT, UNIT 2

DOCKET NO. 50-316

By letter dated May 24, 2017 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML17150A304), Indiana Michigan Power Company (the licensee) submitted information summarizing the results of the fall 2016 steam generator (SG) inspections performed at the Donald C. Cook Nuclear Plant (CNP), Unit 2.

CNP, Unit 2, has four Westinghouse Model 54F SGs. Each SG contains 3,592 thermally treated Alloy 690 tubes. Each tube has a nominal outside diameter of 0.875 inches and a nominal wall thickness of 0.050 inches. The tubes are hydraulically expanded into the tubesheet and are supported by seven Type 405 stainless steel tube support plates (TSP). These TSPs contain quatrefoil-shaped holes through which the tubes pass.

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, such as tube plugging, taken in response to the inspection findings.

Based on the review of the information provided, the U.S. Nuclear Regulatory Commission (NRC) staff has the following observations and comments:

- Two volumetric indications were detected by bobbin probe in SG 22 on the hot leg side, just above the fifth TSP. One indication was in the tube in row 46, column 62 (R46C62) and the other was in the tube in R47C57, both of which are in the periphery of the SG tube bundle. The bobbin voltage response had increased from 0.25 volts (V) to 1.21 V in tube R47C57 and from 0.50 V to 1.20 V in tube R46C62. Both locations were confirmed to be volumetric indications by +Point™ probe inspection and exhibited wear-like degradation with no loose parts indicated. The indications were on the outboard side of the tubes (i.e., facing the tube bundle wrapper), which prevented visual inspection and thus confirmation that loose parts were not present. Based on the location (periphery) and bobbin response, both indications appear to have been caused by a foreign object. A 30-tube bounding examination was conducted around the two indications using the Array and +Point™ probes and no evidence of any other degradation or loose parts was reported. The indication in tube R46C62 had a maximum depth of 39 percent through-wall (TW) while the indication in tube R47C57 had a maximum depth of 38 percent TW. Neither of the two indications exceeded the 40 percent TW plugging limit, but both tubes were stabilized and plugged.

- Also in SG 22, one out-of-service tube, in R8C3, was unplugged at both ends, tested by bobbin and re-plugged with mechanical, Alloy 690, thermally treated plugs. The only

notable bobbin signal was a large factory over expansion (OXP), above the cold leg tubesheet. The original welded plugs were installed during SG manufacture to address the OXP and were made of Alloy 600 material. The licensee was proactively replacing the Alloy 600 plugs with plugs made of Alloy 690 material.

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.

SUBJECT: DONALD C. COOK NUCLEAR PLANT, UNIT 2 – REVIEW OF THE FALL 2016 STEAM GENERATOR TUBE INSPECTIONS REPORT (CAC NO. MF9743; EPID L-2017-LRO-0016) DATED JANUARY 17, 2018

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ADAMS Accession No. ML18003A275 *via memorandum

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