



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

September 26, 2018

OMB Control No. 3150-0231

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

**SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 – CLOSEOUT OF
GENERIC LETTER 2016-01, “MONITORING OF NEUTRON-ABSORBING
MATERIALS IN SPENT FUEL POOLS” (CAC NO. MF9414;
EPID L-2016-LRC-0001)**

Dear Mr. Hanson:

On April 7, 2016, the U.S. Nuclear Regulatory Commission (NRC) issued Generic Letter (GL) 2016-01, “Monitoring of Neutron-Absorbing Materials in Spent Fuel Pools” (Agencywide Documents Access and Management System (ADAMS) Accession No. ML16097A169), to address the degradation of neutron-absorbing materials (NAMs) in wet storage systems for reactor fuel at power and non-power reactors.

The generic letter requested that licensees provide information to allow the NRC staff to verify continued compliance through effective monitoring to identify and mitigate any degradation or deformation of NAMs credited for criticality control in spent fuel pools (SFPs).

To facilitate a licensee's response, GL 2016-01 established four categories (Category 1, Category 2, Category 3, and Category 4). Categories 1, 2, and 3 identify situations where a detailed response to the GL 2016-01 would not be required. The categorization criteria were generally based on if a licensee does not credit NAMs for criticality control, or if a licensee's NAM monitoring program has been incorporated in the licensing basis by an NRC-approved technical specification (TS) change or license condition.

By letter dated November 3, 2016 (ADAMS Accession No. ML16308A470), as supplemented by letter dated January 25, 2018 (ADAMS Accession No. ML18025A799), Exelon Generation Company, LLC (the licensee), responded to GL 2016-01 for Three Mile Island Nuclear Station, Unit 1 (TMI-1). In the licensee's response to GL 2016-01, as supplemented, the licensee stated that, for TMI-1, the licensee credits Boral for criticality control and reported TMI-1 as meeting Category 3 for Boral. The NRC staff performed a thorough review of the licensee's response, any documents referenced therein, and other applicable licensing basis documents. The NRC staff's review determined that the licensee credits Boral NAMs for criticality control and has established a Boral NAM monitoring program. However, the NRC staff review also determined that the Boral NAM monitoring program has not been incorporated into the licensing basis

through an NRC-approved TS change or license condition. Therefore, the NRC staff reviewed the previously docketed information referenced in the responses to determine if it contained the information consistent with an acceptable Category 4 response. The staff determined that previously docketed information sufficiently addressed the five areas of information described in Appendix A to GL 2016-01 for Boral. In particular, the described monitoring program for the Boral includes the following key features:

- Neutron attenuation testing of coupons.
- Established processes to ensure that the licensee will take the appropriate corrective actions if any potentially non-conforming material is discovered.
- A testing frequency not to exceed 5 years.
- Acceptance criteria to ensure maintenance of the 5-percent subcriticality margin for the SFP.

The NRC staff found that the licensee intends to continue monitoring the condition of its NAMs as described in its response for TMI-1.

In the licensee's response to GL 2016-01, as supplemented, the licensee also stated that, for TMI-1, the licensee credits Metamic for criticality control and has an established NAM monitoring program. The NRC staff's review determined that the provided response sufficiently addressed the five areas of information described in Appendix A of GL 2016-01 for Metamic. In particular, the described monitoring program for the Metamic includes the following key features:

- Neutron attenuation testing of coupons.
- Established processes to ensure that the licensee will take the appropriate corrective actions if any potentially non-conforming material is discovered.
- Testing of coupons at intervals not to exceed five refueling outages. The NRC staff interprets this to mean no less often than once every 10 years, given that U.S. power plants are not expected to exceed 2-year cycles.
- Acceptance criteria to ensure maintenance of the 5-percent subcriticality margin for the SFP.

The NRC staff found that the licensee intends to continue monitoring the condition of its NAMs as described in its response TMI-1.

For TMI-1, the NRC staff's review determined that the information provided sufficiently addressed the five areas of information described in Appendix A to GL 2016-01. Based on the review of the information provided, the NRC staff concludes no further information is requested regarding GL 2016-01.

Sincerely,

A handwritten signature in black ink that reads "Douglas A. Broaddus". The signature is written in a cursive style with a large initial "D".

Douglas A. Broaddus, Chief
Special Projects and Process Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-289

cc: Listserv

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ADAMS Accession No.: ML18253A099

***via email**

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