



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PA 19406-2713

July 17, 2014

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO), Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: NOTICE OF ENFORCEMENT DISCRETION FOR EXELON GENERATION COMPANY, LLC REGARDING THREE MILE ISLAND UNIT 1 [TAC No. MF4403, NOED No. 14-1-03]**

Dear Mr. Pacilio:

By letter dated July 15, 2014, you requested that the U.S. Nuclear Regulatory Commission (NRC) exercise discretion not to enforce compliance with the actions required in Technical Specification (TS) 3.3.2, "Emergency Core Cooling – Reactor Building Emergency Cooling and Reactor Building Spray Systems" for Three Mile Island Nuclear Station (TMI), Unit 1. Your letter documented information previously discussed with the NRC during a telephone conference held on July 13, 2014, at 11:00 and 15:00 EDT, with subsequent approval verbally granted by the NRC at 17:19 EDT.

Your letter stated that a small leak (1 drop every 2 minutes) was identified from a welded connection upstream on the high pressure injection (HPI) line side of instrument root isolation valve MU-V-1034 during a plant walk-through at approximately 17:30 EDT on July 10, 2014. Valve MU-V-1034 is the high side root isolation valve for the 'B' HPI line flow instrument, but isolation of this leak required that the 'A' train of HPI be isolated and declared inoperable. TMI Unit 1 TS 3.3.2 states, "Components shall not be removed from service so that the affected system train is inoperable for more than 72 consecutive hours. If the system is not restored to meet the requirements of Specification 3.3.1 within 72 hours, the reactor shall be placed in a HOT SHUTDOWN condition within six hours." Upon identification of the leak you entered the LCO at 17:30 EDT on July 10, 2014. Therefore the expiration time for restoration of the train or initiation of a plant shutdown to hot standby was at 17:30 EDT on July 13, 2014.

You pursued non-destructive testing (NDT) of the area of the leak in parallel with the development of the repair plan. Your staff identified three indications on the weld at the valve using dye penetrant testing and you developed detailed work order repair activities and a schedule for the repairs based on these results. Your initial schedule showed completion of the weld repair and return of the 'A' train of HPI to operable status prior to 17:30 EDT on July 13, 2014, when the TS required the reactor shall be placed in a hot shutdown condition within six hours. However, during early execution of the repair activity you were unable to achieve adequate isolation using the installed isolation valves. Your subsequent effort to adequately isolate the leak with 6-inch freeze seals was also unsuccessful. You consulted with the freeze seal vendor and, based on vendor recommendations, you determined that there was

high confidence of isolation of the weld if one 6-inch and one 12-inch freeze seal were put in place. However, these efforts would extend the total time required to effect necessary repairs. You revised the repair schedule, based on using a combination of one 6-inch and one 12-inch freeze seal, and determined that a 46.5 hour extension past the TS return to service time requirement for 'A' train HPI would be needed to complete the repairs.

You requested that a Notice of Enforcement Discretion (NOED) be issued pursuant to the NRC's policy regarding the exercise of enforcement discretion for an operating facility as detailed in the NRC Enforcement Policy and NRC Inspection Manual Chapter (IMC) 0410, "Notices of Enforcement Discretion," dated March 13, 2013. The request for the NOED was made by your TMI Regulatory Affairs Manager to the TMI Senior Resident Inspector both via email at 04:14 and verbally at 06:46 EDT on July 13, 2014. You requested that the NOED be in effect from 17:30 EDT on July 13, 2014, until the restoration of the 'A' train of HPI to service, but not to exceed 16:00 EDT on July 15, 2014. You stated that the request satisfied Section 3.0.3 (b) of IMC 0410 in that compliance with this TS would result in an unnecessary shutdown of the reactor without a corresponding public health and safety benefit.

This letter documents our telephone conversations on July 13, 2014 at 11:00 and 15:00 EDT, as well as our verbal granting of this NOED during a subsequent call at 17:19 EDT on July 13, 2014. The principal staff members who participated in these telephone conferences, which met the minimum NRC staffing requirement for considering an NOED request, are noted in Enclosure 1. This letter also documents that the staff confirmed that your July 15 letter (ML14197A293) was consistent with the NOED request made verbally on July 13.

During the teleconference on July 13, 2014, and further elaborated in your July 15, 2014, letter, your staff indicated that from a risk perspective, it was unnecessary to place TMI Unit 1 into a plant shutdown given that the additional time to perform repairs beyond the TS time limit did not result in a more than minimal increase in radiological risk, or involve adverse consequences to the environment. In a quantitative assessment your staff determined that the risk was within normal work control levels (Incremental Conditional Core Damage Probability (ICCDP) less than or equal to  $5E-07$ ). Based on actual plant conditions, your staff estimated the ICCDP to be  $1E-07$  for the requested duration of the NOED, and the Incremental Conditional Large Release Probability (ICLERP) to be approximately  $1E-08$ . Both of these probabilities were below the thresholds established by NRC IMC 0410. Additionally, your staff stated that the estimated ICCDP and ICLERP values did not take into account conservatisms associated with compensatory actions discussed below that would be put in place during the maintenance. The results of your staff's quantification were independently corroborated by NRC risk analysts and were confirmed to be within the guidance thresholds in IMC 0410.

While the 'A' HPI train was inoperable, your staff stated that the following actions, among others, would be implemented to reduce the risk associated with the plant configuration during the HPI weld repair: 1) protecting the 'B' train of HPI, the emergency diesel generators, the station blackout diesel and switchyard equipment in accordance with the plant's work control and operations procedures; 2) conducting shiftly reviews and briefings of operator actions required in response to a loss of offsite power or loss of the '1E' engineered safeguards bus if either occurred while the 'A' HPI train was inoperable; 3) conducting shiftly walkdowns of the intake pump and screen house to validate that there were no concerns with safety-related equipment in those areas from internal flooding-related events; 4) verifying that the Susquehanna River hydrograph forecast for the three days during which the repairs were to be completed did not include a prediction level that would meet entry conditions for the flooding abnormal operating procedure; 5) canceling all other maintenance on PRA-related equipment and 6) notifying the

load dispatcher of the TMI, Unit 1 condition to ensure that grid power status was prioritized and maximized. These additional compensatory risk management measures remained in place during the period of the NOED and were independently verified to be in place by the NRC resident inspectors.

The TMI Plant Operations Review Committee (PORC) reviewed and concurred with the NOED request. Because the request was a one-time extension of the required completion time for repairs, your staff stated that a follow-up license amendment request was not required.

Based on the NRC's staff's evaluation of your request, the NRC concluded that you have adequately addressed the criteria in IMC 0410 which demonstrates that granting this NOED was consistent with the NRC's Enforcement Policy. Specifically, based on the risk evaluations performed by Exelon Generation Company and the NRC, as well as the compensatory measures put in place during the NOED, the staff concludes that granting the NOED would not adversely affect public health and safety or the common defense and security, or involve adverse consequences to the environment. Therefore, as communicated to your staff at 17:19 EDT on July 13, 2014, the NRC exercised discretion not to enforce compliance with TS 3.3.2, for an additional period of 46.5 hours, which would have expired at 16:00 EDT on July 15, 2014. Due to the successful completion of the weld repair ahead of schedule, this NOED was terminated at 09:53 EDT on July 15, 2014, after an elapsed time of just over 40 hours.

In addition, as discussed on July 13, 2014, the NRC staff agreed with your determination that a follow-up TS amendment is not necessary. The staff finds that a TS amendment (either temporary or permanent) needed for circumstances similar to those addressed by the NOED is not necessary because it involves a non-recurring non-compliance and only involves a single request for extending the TS allowed outage time to allow for replacement of an inoperable component.

As stated in the NRC Enforcement Policy, action will be taken, to the extent that any violation was involved, for the root cause that led to the noncompliance for which this NOED was necessary.

Sincerely,

**/RA Michael L. Scott Acting for/**

Ho K. Nieh, Director  
Division of Reactor Projects

Docket No: 50-289  
License No.: DPR-50

Enclosure 1: Key NRC staff participants in the NOED evaluation

cc w/encl: Distribution via ListServ

## Enclosure 1: Key NRC staff participants in the NOED evaluation

- Ho K. Nieh, Director, Division of Reactor Projects (DRP), Region I
- James Trapp, Acting Director, Division of Reactor Safety (DRS), Region I
- Kevin Mangan, Acting Branch Chief, DRP, Region I
- Christopher Cahill, Senior Reactor Analyst, DRS, Region I
- David Werkheiser, Senior Resident Inspector, Three Mile Island, Region I
- Justin Heinly, Resident Inspector, Three Mile Island, Region I
- Louise Lund, Acting Division Director, Division of Operating Reactor Licensing (DORL),  
Office of Nuclear Reactor Regulation (NRR)
- Benjamin Beasley, Branch Chief, DORL
- Jeffrey Whited, TMI Project Manager, DORL
- Holly Cruz, NOED Process Owner, Division of Policy and Rulemaking
- See-Meng Wong, NOED Probability Risk Assessment Contact, Division of Risk Assessment
- John Tsao, Acting Branch Chief, Division of Engineering
- Samuel Miranda, Acting Branch Chief, Division of Safety Systems (DSS)
- Robert Elliott, Branch Chief, Division of Safety Systems (DSS)

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 ADAMS Accession No.: **ML14198A494**

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DATE	07/17/14	07/17/14	07/16/14	07/16/14	07/17/14
OFFICE	NRR/DORL	RI/DRP	RI/ORA		
NAME	LLund/ *	HNieh/HKN	WDean/WMD		
DATE	07/17/14	07/17 /14	07/ 17 /14		

\*Concurred via email

OFFICIAL RECORD COPY

Letter to Michael J. Pacilio from Ho K. Nieh dated July 17, 2014

SUBJECT: NOTICE OF ENFORCEMENT DISCRETION FOR EXELON GENERATION  
COMPANY, LLC REGARDING THREE MILE ISLAND UNIT 1 [TAC No.  
MF4403, NOED No. 14-1-03]

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