



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

October 1, 2009

Mr. Charles G. Pardee
President and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: THREE MILE ISLAND NUCLEAR STATION, UNIT 1 - AUDIT OF EXELON
GENERATION COMPANY, LLC'S MANAGEMENT OF REGULATORY
COMMITMENTS (TAC NO. ME1505)

Dear Mr. Pardee:

In Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000, the Nuclear Regulatory Commission (NRC) informed licensees that the Nuclear Energy Institute (NEI) document NEI 99-04, "Guidelines for Managing NRC Commitment Changes," contains acceptable guidance for controlling regulatory commitments and encouraged licensees to use the NEI guidance or similar administrative controls to ensure that regulatory commitments are implemented and that changes to the regulatory commitments are evaluated and, when appropriate, reported to the NRC.

The NRC Office of Nuclear Reactor Regulation (NRR) has instructed its staff to perform an audit of licensees' commitment management programs once every 3 years to determine whether the licensees' programs are consistent with the industry guidance in NEI 99-04, and that regulatory commitments are being effectively implemented.

An audit of the commitment management program for Three Mile Island, Unit 1 (TMI-1), was performed during the period of August 24 through August 27, 2009. Based on the audit, the NRC staff concludes that: (1) for licensing activities (NRC generic letters and bulletins) TMI-1 has implemented NRC commitments on a timely basis; (2) for licensing actions (specifically, license amendment requests) several discrepancies were noted regarding the implementation of commitments, and; (3) overall, TMI-1 has implemented an effective program for managing NRC commitment changes. Details of the audit are set forth in the enclosed audit report.

Sincerely,

A handwritten signature in black ink that reads "Peter Bamford".

Peter Bamford, Project Manager
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-289

Enclosure: Audit Report

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AUDIT REPORT BY THE OFFICE OF NUCLEAR REACTOR REGULATION
REGULATORY COMMITMENTS MADE BY EXELON GENERATION COMPANY, LLC TO
THE NUCLEAR REGULATORY COMMISSION

FOR THREE MILE ISLAND NUCLEAR STATION, UNIT 1

DOCKET NO. 50-289

1.0 INTRODUCTION AND BACKGROUND

In Regulatory Issue Summary 2000-17, "Managing Regulatory Commitments Made by Power Reactor Licensees to the NRC Staff," dated September 21, 2000 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML003741774), the Nuclear Regulatory Commission (NRC) informed licensees that the Nuclear Energy Institute (NEI) document NEI 99-04, "Guidelines for Managing NRC Commitment Changes" (ADAMS Accession No. ML003680088) contains acceptable guidance for controlling regulatory commitments and encouraged licensees to use the NEI guidance or similar administrative controls to ensure that regulatory commitments are implemented and that changes to the regulatory commitments are evaluated and, when appropriate, reported to the NRC.

The NRC Office of Nuclear Reactor Regulation (NRR) has instructed its staff to perform an audit of licensees' commitment management programs once every 3 years to determine whether the licensees' programs are consistent with the industry guidance in NEI 99-04, and that regulatory commitments are being effectively implemented.

NEI-99-04 defines a "regulatory commitment" as an explicit statement to take a specific action agreed to, or volunteered by, a licensee and submitted in writing on the docket to the NRC. NRR guidelines direct the NRR Project Manager to audit the licensee's commitment management program by assessing the adequacy of the licensee's implementation of a sample of commitments made to the NRC in past licensing activities (bulletins, generic letters, etc.) and licensing actions (amendments, reliefs, exemptions, etc.).

2.0 AUDIT PROCEDURE AND RESULTS

An audit of the commitment management program for Three Mile Island, Unit 1 (TMI-1) was performed during the period of August 24 through August 27, 2009. The audit was performed at TMI-1 using documentation provided by Exelon Generating Company, LLC (Exelon) personnel, as requested by the NRC staff.

Enclosure

The NRC staff reviewed commitments made during the period approximately 3 years prior to the audit. The audit consisted of two major parts: (1) verification of the licensee's implementation of NRC commitments, and (2) verification of the licensee's program for managing changes to NRC commitments.

2.1 Verification of Licensee's Implementation of NRC Commitments

The primary focus of this part of the audit is to confirm that the licensee has implemented commitments made to the NRC as part of past licensing actions/activities. For commitments not yet implemented, the NRC staff determines whether they have been captured in an effective program for future implementation.

2.1.1 Audit Scope

The audit addressed a sample of commitments made during the review period. The audit focused on regulatory commitments (as defined above) made in writing to the NRC as a result of past licensing actions (amendments, exemptions, etc.) or licensing activities (bulletins, generic letters, etc.). Before the audit, the NRC staff searched ADAMS for licensee commitments associated with TMI-1 for verification. The review included licensing actions and licensing activities with NRC issuance dates in 2006, 2007, 2008 and portions of 2009. The commitments included in the review are shown in Table 1.

The audit excluded the following types of commitments that are internal to licensee processes:

- (1) Commitments made on the licensee's own initiative among internal organizational components.
- (2) Commitments that pertain to milestones of licensing actions/activities (e.g., respond to an NRC request for additional information by a certain date). Fulfillment of these commitments was indicated by the fact that the subject licensing action/activity was completed.

2.1.2 Audit Results

Table 1 provides a summary of the audit for verification of the licensee's implementation of commitments. All commitments associated with licensing activities (NRC bulletins and generic letters) were verified to be completed or adequately tracked by the licensee for future completion at an appropriate date. For commitments related to licensing actions, deficiencies were noted regarding the implementation of TMI-1 Technical Specification (TS) Amendment numbers 260 and 263 (ADAMS Accession Nos. ML072340348 and ML073400815, respectively).

TMI-1 TS Amendment 260 involved the removal of the Spent Fuel Pool (SFP) and Reactor Building (RB) refueling area radiation monitors from the TS. The incoming license amendment request dated December 12, 2006 (ADAMS Accession No. ML063540168), lists a commitment in enclosure 3 that states, "[t]he TMI Unit 1 [Updated Final Safety Analysis Report] UFSAR and plant procedures will be further revised to incorporate the relocated TS channel check, test, and calibration surveillance requirements for RM-G6, RM-G7, and RM-G9." This commitment was to be completed upon implementation of the approved license amendment, which, according to the licensee, occurred on October 24, 2007. There was a UFSAR update performed after this

amendment was implemented (revision 19), however, it did not include the channel check, test and calibration requirements relocated from the old TS. Therefore, contrary to the commitment, as of the dates this audit was performed, the TMI-1 UFSAR was not updated to contain the relocated surveillance requirements, nor was any in-progress document found that was tracking a UFSAR change to accomplish this commitment. The licensee initiated Issue Report 00957588 during the audit to document this discrepancy and to initiate the proper UFSAR update.

Regarding the same license amendment, the licensee's application dated December 12, 2006 contains a re-analysis of the Fuel Handling Accident in the Fuel Handling Building, an accident described in the TMI-1 UFSAR, Chapter 14. This re-analysis, among other things, uses the Alternate Source Term (AST) methodology in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.67 to support the relocation of the affected radiation monitors from the TS. This re-analysis was referenced in the NRC safety evaluation approving the amendment. Paragraph 50.71(e) of 10 CFR requires that licensee's update their UFSARs to assure that the information in the report contains the latest information developed. This update must include all "... safety analyses and evaluations performed by the applicant or licensee, either in support of approved license amendments or in support of changes that do not require a licensee amendment..." The latest TMI-1 UFSAR submittal, letter dated April 7, 2008, (ADAMS Accession No. ML081130633), Attachment 1, states that the RM-G6 and RM-G7 modification was included in the current (revision 19) revision of the UFSAR. Therefore, it appears that the licensee had completed its update of the UFSAR to reflect the implementation of TS Amendment 260. However, the Chapter 14 analysis for the Fuel Handling Accident in the Fuel Handling Building contained in UFSAR, revision 19, does not appear to reflect the use of the AST analysis. The licensee was not able to locate any document in progress to track any further UFSAR updates relating to TS Amendment 260 during the audit. Based on the timing of the most recently submitted UFSAR update (April 7, 2008) and the October 24, 2007, implementation date, it does not appear that a violation of 10 CFR 50.71(e) has occurred because according to 10 CFR 50.71(e)(4), the submittal must reflect changes made up to a maximum of 6 months prior to the submittal. However, considering the contents of the April 8, 2008, UFSAR submittal and the absence of any active tracking documents for further UFSAR changes, the NRC staff concludes that a 10 CFR 50.71(e) violation would have been likely upon the next UFSAR update submission. The licensee initiated Issue Report 00957776 to document this discrepancy during the audit and initiate the proper UFSAR update.

TMI-1 TS Amendment 263 involves a change to the buffer used for post-LOCA recirculation pH control. The change involved installing trisodium phosphate (TSP) in baskets in the Reactor Building. By letter dated October 19, 2007, in response to a request for information from the NRC (ADAMS Accession No. ML072980699), the licensee committed that, "[t]he elements and methodology of the proposed TS Table 4.1-5, Item 2.b surveillance testing will be clearly delineated in station surveillance procedures." This commitment was to be completed upon implementation of the approved license amendment, which occurred in December 2007. While preparing for this commitment audit, the licensee noted that the procedure that would perform this surveillance testing (CY-TM-214-200), was written, but not yet implemented. Additionally, the assigned commitment tracking document had been closed. The licensee initiated Issue Report 00956117 to document this discrepancy. According to the issue report, the tracking document should not have been closed until after final implementation of the procedure. The NRC staff concludes that in this case, the procedure was not updated upon implementation of this TS amendment, as committed to in the October 19, 2007, letter. Station procedures for commitment tracking should have ensured that the surveillance procedure was approved in a

timeframe consistent with the commitment. After discussing this issue with the site corrective action program lead, the licensee agreed to perform an extent of condition evaluation for this issue report. The NRC staff notes that this surveillance is required to be performed on a 24 month refueling interval and hence is not due to be performed until the upcoming fall 2009 refueling outage.

A second commitment in the October 19, 2007, letter is that “[p]rocedures will ensure that samples are taken within the basket at both interior and peripheral locations to obtain a representative sample.” During this commitment audit the same procedure as discussed above, CY-TM-214-200, was reviewed, and it was noted that the sampling directions did not differentiate between interior or peripheral locations. This deviation from the original commitment was not identified or tracked as a commitment change. The licensee initiated Issue Report 00957799 to document this discrepancy during the audit and to initiate a procedure change that accurately reflects the commitment.

2.2 Verification of the Licensee's Program for Managing NRC Commitment Changes

The primary focus of this part of the audit is to verify that the licensee has established administrative controls for modifying or deleting commitments made to the NRC. The NRC staff compared the licensee's process for controlling regulatory commitments to the guidelines in NEI 99-04, which the NRC has found to be an acceptable guide for licensees to follow for managing and changing commitments. The process used at TMI-1 is contained in licensee procedure LS-AA-110, Revision 6, “Commitment Management.”

The audit reviews a sample of commitment changes, as shown in Table 2, that include changes that were or will be reported to the NRC, and changes that were not or will not be reported to the NRC. The audit also verifies that the licensee's commitment management system includes a mechanism to ensure traceability of commitments following initial implementation. This ensures that licensee personnel are able to recognize that future proposed changes to the affected design features or operating practices require evaluation in accordance with the commitment change control process.

2.2.1 Audit Results

The NRC staff reviewed the licensee's procedure LS-AA-110, Revision 6, against NEI 99-04. Section 6.1 of the procedure lists NEI 99-04 as a reference. The NRC staff found that LS-AA-110 generally follows the guidance of NEI 99-04 and provides detailed instructions for making regulatory commitments, tracking regulatory commitments, annotating documents to provide traceability of commitments, and for making changes to commitments. The NRC staff concludes that the procedure used by the licensee to manage commitments provides the necessary attributes for an effective commitment management program.

Table 2 provides the specific details and results of the audit of commitment changes for TMI-1. Areas warranting further discussion are described below.

Attachment 2 to procedure LS-AA-110 contains a flowchart that is intended to match up with Figure A-1 of NEI 99-04. It was noted that the two flowcharts differ slightly downstream of the “Yes” answer in decision step 3, “Original Commitment Necessary for Compliance.” None of the commitments reviewed in this audit would have come to a different conclusion based on the discrepancy, so it was not judged to detract from the commitment program's effectiveness. The

licensee had previously entered this issue into the Exelon corrective action program (Issue Report 00918829) as discussed in Limerick Generating Station commitment audit report dated June 15, 2009 (ADAMS Accession No. ML091540661).

A number of commitment changes were noted to have the question 6 block "Has the original commitment been implemented?" checked "yes" for submission to the NRC for review, however they were not included in the yearly commitment report submitted to the NRC. Upon further investigation it was noted that these commitment changes were historical commitments that were being deleted. It appeared that the real justification for deleting these commitments was that they do not meet the current definition of a commitment, which is not one of the screening questions. NEI 99-04 states its scope applies to commitments communicated to the NRC under the current regulatory structure and that licensee's must decide how they will address commitments communicated to the NRC prior to the promulgation of NEI 99-04. Exelon procedure LS-AA-110 allows the changing of regulatory commitments if they currently no longer meet the definition of a commitment. Procedure LS-AA-110 further instructs the user to use the commitment change form that is based on the NEI flowchart to evaluate all regulatory commitment changes. Since the NEI (and Exelon) flowchart is based on an initial assumption that a commitment meets the current definition, it does not address historical commitment deletion. The Exelon practice of using the NEI-based flowchart to evaluate historical commitments for deletion, based on the rationale of the current definition of a licensing commitment, appears to handicap the user into using a tool that is not applicable to the evaluation being performed. The licensee initiated Issue Report 00957792 during the audit to evaluate this observation.

3.0 CONCLUSION

As discussed above, the licensee's procedure used to manage commitments provides the necessary attributes for an effective commitment management program, with several discrepancies noted in license amendment request commitment implementation. All issues identified in this audit were entered into the licensee's corrective action program for evaluation and follow-up.

4.0 LICENSEE PERSONNEL CONTACTED FOR THIS AUDIT

A. Miller

Principal Contributor: P. Bamford

Date: October 1, 2009

Table 1

Written Commitments – 2006-2009

TMI-1 Submittal Date	NRC TAC No.	NRC Issuance	Summary of Commitment and Licensee Tracking Number (if applicable)	Licensee Implementation Status
02/21/2007	MD4191	Confirmatory Action Letter NRR-07-029 issued 03/22/2007	Pressurizer Weld Examination/Mitigation	Applicable pressurizer welds mitigated or examined in 2007 refueling outage
03/22/2007	MD4910	TS Amendment No. 262, issued 10/15/2007	Reactor Coolant Pressure-Temperature Safety Limit Change	Licensee has implemented NRC Regulatory Guide (RG) -1.105 methodology for Variable Low Pressure Trip setpoint
05/15/2006	MD1807	TS Amendment No. 261, issued 09/27/2007	Steam Generator (SG) Program – Technical Specification Task Force Traveler (TSTF)-449	Licensee has implemented required SG sleeve examinations for 2007 refueling outage
12/12/2006	MD3783	TS Amendment No. 260, issued 09/26/2007	Relocate Refueling Area and SFP Storage Area Radiation Monitors	Amendment has been implemented; see report for description of deficiencies in commitment management. Issue reports written.
06/29/2007	MD5963	Amendment 263 issued 12/21/2007	Reactor Building Buffer Change to TSP	Amendment has been implemented; see report for description of deficiencies in commitment management. Issue reports written.
04/21/2008	MD8630, MD8631	Amendment No. 270, issued 03/23/2009	Implement new working hours requirements specified in 10 CFR 26, subpart I, concurrently with implementation of TS amendment to delete references to Generic Letter (GL) 82-12.	In progress – implementation scheduled for 10/01/2009.
04/11/2008	MD7841, MD7842	NRC GL 2008-01, dated 01/11/2008	Complete walkdowns of inaccessible piping systems during spring 2009 refueling outage (RFO). Complete evaluations of subject systems within 60 days following startup from 2009 RFO. Submit supplemental response to NRC with results of completed evaluations within 90 days of startup from fall 2009 RFO.	In-process - due 12/31/2009 In-process - due 03/01/2010 In-process – due 03/31/2010
10/14/2008	MD7841, MD7842	GL 2008-01, dated 01/11/2008	Submit TSTF 180 days after NRC approval of TSTF	In process – actively tracking industry activities – due date 03/01/2010 adjusted as necessary with input from corporate subject matter expert.

Table 2**Changed Commitments**

Change Tracking Number	Source	Justification for change/deletion	NRC Notification
05-004	TMI Tracking No. 5928-06-20500	Requirement for station blackout (SBO) diesel testing has been incorporated into UFSAR section 8.5.2, 10 minute SBO diesel loading requirement is controlled by Emergency Operating Procedure validation process.	Yes
06-001	TMI Tracking No. 6710-96-2097	Testing of control room chillers every two weeks placed unnecessary wear and tear on the equipment. Testing frequency changed to correspond to vendor recommendation.	Yes
06-006	Inspection Report (IR) 80-22	The training procedures referenced were updated prior to the TMI-1 restart, satisfying the commitment. The training procedures are now covered by the Institute of Nuclear Plant Operations (INPO) accreditation process as of 1985. IR 80-22 was closed by IR 81-07.	Yes
06-007	TMI Tracking No. 5211-83-3232	The training procedures referenced were updated prior to the TMI-1 restart, satisfying the commitment. The training procedures are now covered by the INPO accreditation process as of 1985.	Yes
06-009	IR 80-19	The training department administrative manual was created to meet this commitment and the open item was closed by IR 82-16. Currently the INPO accreditation requirements for training accreditation cover this item.	Yes
06-011	TMI Licensee Event Report (LER) 91-004	Movement of irradiated fuel in the Reactor Building no longer requires containment integrity. Thus the need to train on an event that involved a loss of containment integrity during irradiated fuel movement no longer exists.	Yes
06-015	TMI Letter 1974T0015	Molded case circuit breakers are covered by the station preventative maintenance program.	Yes
07-025	Inspection and Enforcement Bulletin 74-8	Reactor building coolers are held in wet layup under controlled chemistry conditions when not in active service. Inspections since 1994 show tubes to be in excellent condition eliminating the need for inspection each outage. Flow testing is still performed to verify the coolers pass design flow.	Yes
07-026	TMI Tracking No. 6710-97-2023	Design basis document maintenance is covered by procedure CC-AA-207 which superseded the original procedure that was the subject of this commitment (EP-045).	Yes

06-002	TMI Tracking No. 6710-96-2097	Biennial procedure review is no longer required by the quality assurance manual – this periodic review has been replaced by other processes to ensure that procedures are maintained up to date, including those related to GL 89-13.	No
06-008	TMI-1 LER 99-003-00	Engineering training is covered by INPO accreditation requirements. This includes human performance fundamentals. Referring to the systematic approach to training process is a more accurate description of Engineering training versus just the word “training.” Procedure EP-100T still provides the principles for review thoroughness and verification of engineering work.	No
06-012-014	TMI-1 LER 2001-01-01	Does not meet the current definition of a commitment and has been deleted.	No
07-001	Various	Does not meet the current definition of a commitment and has been deleted.	No
07-002	Various	Corrective actions have all been taken for the responses to LERs. Each commitment is subject to a program with ongoing control subject to a revision review process.	No
07-005	Various	Does not meet the current definition of a commitment and has been deleted.	No
07-014	Various	Does not meet the current definition of a commitment and has been deleted. All the commitments are covered by a codified process (ie 50.54(a) or 50.54(q).	No
07-017	Various	Corrective actions have all been taken. Each programmatic commitment has been captured in a program or administrative control subject to a revision review process.	No
07-022	Various	Does not meet the current definition of a commitment and has been deleted.	No
07-024	Various	Actions have either been taken (one-time) or are no longer relevant due to license, facility or environmental changes.	No
08-002	TMI Tracking No. 6710-97-2428	Does not meet the current definition of a commitment or are covered by the quality assurance plan and have been deleted.	No
08-004	TMI Letter C311-93-2114	All licensed operator files are color coded. Nurses trained continuously on 10 CFR 55 requirements. Procedures also cover medical status changes. Does not meet the current definition of a commitment and has been deleted.	No
09-003	TMI Letter C311-91-2057	SFP re-rack in 1993 initiated these commitments. Radiation protection procedures and As Low As Reasonably Achievable program cover diving radiological concerns.	No

09-014	TMI Tracking No. 1992T0058	Seismic Qualification Users Group/RG 1.97 qualification requirements are now in the UFSAR and thus tracking of this commitment is no longer needed.	No
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President and Chief Nuclear Officer
Exelon Nuclear
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4300 Winfield Road
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/ra/

Peter Bamford, Project Manager
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