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4410-86-L-0055
 Document ID 0410A

March 28, 1986


Office of Inspection and Enforcement
 Attn: Dr. T. E. Murley
 Regional Administrator
 US Nuclear Regulatory Commission
 Region I
 631 Park Avenue
 King of Prussia, PA 19406

Dear Dr. Murley:

Three Mile Island Nuclear Station, Unit 2 (TMI-2)
 Operating License No. DPR-73
 Docket No. 50-320
 10 CFR 50.59 Report for 1985

In accordance with the requirements of 10 CFR 50.59, enclosed for your information are one (1) signed original and thirty-nine (39) copies of a description of changes to facility systems and procedures described in the TMI-2 Final Safety Analysis Report (FSAR) which were effected during 1985. Also included is a summary of tests and experiments performed that were not described in the FSAR.

Sincerely,


 F. R. Standerfer
 Vice President/Director, TMI-2

FRS/RBS/eml

Attachments

cc: Director - TMI-2 Cleanup Project Directorate, Dr. W. D. Travers

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RECOVERY ACTIVITIES

During 1985 a number of plant recovery activities were performed. Many of these activities combined modifications, procedural changes, and tests or experiments. All of these activities were subject to numerous GPUNC reviews and approvals. Changes to previous activities are submitted to the NRC for information under the yearly update program for Technical Evaluation Reports and System Descriptions. Updates to NRC-approved Safety Evaluation Reports are submitted on a "as needed" basis. In addition, certain activities were subject to NRC approval prior to implementation. Those items receiving NRC approval prior to implementation are listed below. Included is reference to the appropriate NRC correspondence approving the activity. Since all the activities listed below were previously submitted to the NRC, they will not be discussed further here.

- o Reactor Building Decontamination and Dose Reduction

Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Update submitted via GPU Nuclear letter 4410-85-L-0001 dated February 8, 1985.
- o Containment Air Control Envelope

Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Updates submitted via GPU Nuclear letters 4410-85-L-0058 dated March 21, 1985; 4410-85-L-0216 dated June 12, 1985; and 4410-85-L-0171 dated August 30, 1985.
- o EPICOR II

Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Update submitted via GPU Nuclear letter 4410-85-L-0074 dated April 26, 1985.
- o Mini Decay Heat Removal System

Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Update submitted via GPU Nuclear letter 4410-85-L-0060 dated April 10, 1985.

- o Interim Solid Waste Staging Facility
Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Update submitted via GPU Nuclear letter 4410-85-L-0102 dated May 6, 1985.
- o Submerged Demineralizer System
Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Updates submitted via GPU Nuclear letters 4410-85-L-0157 dated August 16, 1985, and 4410-85-L-0158 dated August 16, 1985.
- o Solid Waste Staging Facility
Changes to this program are covered by the annual update program for the System Descriptions, Technical Evaluation Reports, or Safety Evaluation Reports. Update submitted via GPU Nuclear letter 4410-85-L-0115 dated August 2, 1985.
- o Auxiliary and Fuel Handling Building Decontamination
Changes to this program are provided in accordance with a quarterly update program. Updates submitted via GPU Nuclear letters 4410-85-L-0019 dated January 15, 1985; 4410-85-L-0083 dated April 15, 1985; and 4410-85-L-0149 dated July 15, 1985.
- o Lower Head Fuel Characterization
Primary Information forwarded via GPU Nuclear letter 4410-85-L-0002 dated January 3, 1985. Project approved via NRC letter dated February 15, 1985.
- o Internals Indexing System
Primary Information forwarded via GPU Nuclear letter 4410-85-L-0112 dated May 17, 1985, for information only.
- o Plenum Lift and Transfer
Primary Information forwarded via GPU Nuclear letters 4410-85-L-0025 dated January 25, 1985; 4410-85-L-0101 dated April 26, 1985; and 4410-85-L-0100 dated May 1, 1985. Project approved via NRC letter dated May 7, 1985.

- o Defueling Water Cleanup System

Primary Information forwarded via GPU Nuclear letters 4410-85-L-0005 dated January 14, 1985; 4410-85-L-0099 dated April 26, 1985; 4410-85-L-0119 dated May 28, 1985; and 4410-85-L-0125 dated June 13, 1985. Project approved via NRC letter dated August 8, 1985.
- o Polar Crane Auxiliary Hook Refurbishment

Primary Information forwarded via GPU Nuclear letters 4410-85-L-0012 dated January 18, 1985; 4410-85-L-0037 dated February 20, 1985; and 4410-85-L-0050 dated March 14, 1985. Project approved via NRC letter dated March 8, 1985.
- o Fuel Canister Storage Racks

Primary Information forwarded via GPU Nuclear letter 4410-85-L-0036 dated February 27, 1985. Project approved via NRC letter dated May 3, 1985.
- o Defueling Canisters

Primary Information forwarded via GPU Nuclear letters 4410-85-L-0067 dated April 19, 1985; 4410-85-L-0167 dated August 15, 1985; and 4410-85-L-0183 dated September 10, 1985. Project approved via NRC letter dated November 5, 1985.
- o Early Defueling

Primary Information forwarded via GPU Nuclear letters 4410-85-L-0091 dated May 20, 1985, and 4410-85-L-0200 dated October 10, 1985. Project approved via NRC letter dated November 12, 1985.
- o Reactor Building Sump Recirculation System

Primary Information forwarded via GPU Nuclear letter 4410-85-L-0082 dated May 14, 1985. Project approved via GPU Nuclear Technical Specifications Change Request No. 46. NRC approval obtained August 8, 1985.
- o Defueling Canister Dewatering System

Primary Information forwarded via GPU Nuclear letter 4410-85-L-0123 dated June 14, 1985, for information only.

o Technical Specification Change
Request No. 46

This change request resulted in the deletion of several systems for Reactor Vessel cooling, water injection and pressure control. Submitted via GPU Nuclear letter 4410-84-L-0154 dated November 6, 1984. Project approved via NRC letter dated August 8, 1985. NOTE: This item was approved via a License Amendment and need not be included here. It is included, however, since it initiated many plant equipment, operations, and procedural changes.

FACILITY MODIFICATIONS

Items in this section were performed without prior approval of the NRC staff under the authority of 10 CFR 50.59. The items listed below cover specific activities and include Engineering Change Memoranda (ECM's) and Engineering Change Authorizations (ECA's). ECM's and ECA's are tracking mechanisms for review, approval, and documentation of specific plant changes. The ECA program was instituted in 1984 as a replacement for the ECM program. Work on systems initiated by ECM's will be completed under the ECM program while new work will be controlled by the ECA program. ECM's and ECA's selected for inclusion were those for which turn-over to Site Operations was completed during the calendar year 1985.

ECM 1250, Revision 0 - BWST Instrument Cabinet Leak Alarms

This ECM documents addition of a leak detection and alarm capability in BWST instrument cabinets.

Safety Evaluation Summary

The addition of a leak detection and alarm capability enhances safety by providing the means to detect and isolate BWST leakage before significant releases to the environment can occur. The changes do not constitute an Unreviewed Safety Question.

ECA 3270-84-0018 Revision 0 - Electrical Modification to Main Transformer Alarm

This ECA documents rewiring of the alarm circuitry of the main transformer alarms. Previously, the alarm indicated a fault condition for either the main or auxiliary transformers. The main transformers are no longer in service. Thus, by removing the main transformer alarm functions, only valid alarms will be received.

Safety Evaluation Summary

Removal of the main transformer alarms does not constitute an Unreviewed Safety Question since the main transformers are no longer in service. By permitting only valid alarms to be received, plant safety is enhanced.

ECA 3623-84-0021 Revision 0 - NI-1 and NI-2 Count Rate Alarm

This ECA documents addition of an audible alarm associated with the NI-1 and NI-2 count rate instruments

Safety Evaluation Summary

The addition of alarms to the count rate circuitry does not change the function or operation of the count rate instrumentation. The alarm enhances safety by alerting operations personnel to changes in the count rate. The change does not constitute an Unreviewed Safety Question.

ECA 3211-84-0024 Revision 0 - Installation of Control Switches at Panel 329A and ECA 3211-84-0032 Revision 0 - Routing Neutralizer Tank Sample Lines to Unit 2 Sample Sink

These ECA's document the reactivation of a capability for remote sampling of the Neutralizer tanks at the Unit 2 sample sink. ECA 3211-84-0024 provided a control capability for valving and ECA 3211-84-0032 provided sample lines to the Unit 2 sample sink. Previously, these samples were obtained at the Unit 1 sample sink and were disconnected to provide separation of Units.

Safety Evaluation Summary

These ECA's document re-establishment of a remote sampling capability that was disconnected during the process of assuring separation of Units 1 and 2. This modification was evaluated in the Boron Hazards Analysis (GPU Nuclear letter 4410-85-L-0195, dated September 27, 1985) and does not constitute an Unreviewed Safety Question.

ECA 3851-84-0058 Revision 0 - Modify Service Air System Condensate Drain Piping

This ECA documents replacement of the Service Air System condensate drain trap and modification of the drain piping to improve the efficiency of the system.

Safety Evaluation Summary

The changes do not affect the safety or function of this portion the system and will reduce the frequency of repair. Components meet or exceed original design requirements. It was determined that the modifications do not constitute an Unreviewed Safety Question.

ECA 3824-85-0012 Revision 0 - Hydrogen Recombiner Piping Removal

This ECA documents removal of portions of the hydrogen recombiner piping from the Fuel Handling Building to facilitate installation of the Defueling Water Cleanup System.

Safety Evaluation Summary

The hydrogen recombiner had previously been removed from service since current plant conditions do not require the capability for hydrogen recombination. Removal of the piping does not affect plant safety. Therefore, the change does not constitute an Unreviewed Safety Question.

PROCEDURE CHANGES

During the course of 1985, procedural requirements changed significantly due to the recovery programs and efforts to simplify the plant's Technical Specifications. With the changes in the plant's operational status due to the recovery and Technical Specifications changes, many procedures became unnecessary or unperformable. These procedures were then cancelled and, where necessary, alternate procedures were issued under the guidance of Recovery Technical Specification Sections 6.8.1 and 6.8.2. Cancelled procedures determined to have review significance underwent SRG review to determine impact on safety prior to cancellation. Due to the subject matter, some of these procedures received NRC review prior to cancellation.

Additionally, in support of the recovery effort, a number of procedure changes were made and new procedures were issued. These recovery related procedures received NRC review and approval prior to implementation, if required by Technical Specification Section 6.8.2. Additionally, many of these procedures performed activities in SER's submitted to the NRC on-the-docket. Since these procedures have NRC approval, they will not be discussed further in this report.

A number of procedural changes were made to convert existing procedures into the new format being used at TMI-2. These format changes did not change the technical content of the procedure, therefore, these changes are not applicable to the 10 CFR 50.59 report.

The remainder of the changes were reviewed and it was determined that there were no changes which specifically constituted a FSAR change as defined by 10 CFR 50.59. However, there were a number of changes made to FSAR-type procedures. These changes were made to reflect changing plant conditions or to implement the recommendations of various activity related analyses. Typical system-oriented procedures receiving these types of changes are:

- o Reactor Vessel Water Injection
- o Reactor Vessel Decay Heat Removal
- o Reactor Vessel Boron Control and Sampling
- o Reactor Vessel Water Processing
- o Processed Water Movement
- o Fill of Fuel Transfer Canal and Fuel Pool "A"
- o Nitrogen System Operation
- o Radiation Monitoring
- o Emergency Diesel Loading

All procedures receiving this type of change were determined to not constitute an Unreviewed Safety Question.

TESTS AND EXPERIMENTS

A number of tests and experiments were performed during the year. The majority of these tests were covered by SER's provided for major recovery activities, as discussed previously in this report. The remainder of the tests or experiments were evaluated to determine if they constituted an Unreviewed Safety Question or a significant risk to the health and safety of the public or workers. In no case was there determination of an Unreviewed Safety Question or significant risk. Below is a list of tests or experiments which is representative of those performed during 1985.

- o Lower Reactor Vessel Head Video Examinations
- o Lower Reactor Vessel Head Water and Debris Samples
- o Core Void Region Inspection and Mapping
- o Removal of Selected Core Components for Examination
- o Examination of "A" Once Through Steam Generator Upper Tube Sheet for Fuel Characterization
- o Video Inspection and Sampling of Pressurizer
- o Reactor Building Basement Video Inspection and Sampling
- o Use of Temporary Filter in Fuel Pool "A"
- o Gamma-Spectra Measurements of Pressurizer Surge Line for Fuel Characterization
- o Gamma-Spectra Measurements of Auxiliary and Fuel Handling Building System for Fuel Characterization

None of the above tests or experiments involved the potential for significant release of radioactive materials or the potential to disable systems important to the safe operation of TMI-2. Although the above activities are not necessarily addressed by docketed SER, in all cases the activities are bounded by activities previously approved by the NRC. Thus, none of the above activities constitute an Unreviewed Safety Question.