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February 14, 1991
C311-91-2016

Mr. T. T. Martin
Region I, Regional Administrator
US Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, PA 19406

Dear Sir:

Subject: Three Mile Island Nuclear Station, Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Facility Examination Report to the NRC

This report provides the facility evaluation of the NRC administered licensed operator requalification examinations administered to 12 individuals at TMI-1 from January 28-31, 1991. This report is being prepared at the request of the NRC Chief Examiner, R. H. Bissett.

Overall, TMI-1 has rated its licensed operator requalification program as satisfactory. The combined results of the NRC and TMI were 9 of the 12 examinees were evaluated as passing both the written examination and the operating test.

The following attachments detail the various aspects of the examinations:

1. TMI-1 Requalification Results Summary Sheet

2. TMI-1 Identified Weaknesses

3. Discussion of NRC/TMI-1 Disagreements on the Simulator Examination Results and Walkthru Exams.

In addition, the original Examination Security Agreements are forwarded with Mr. Bissett's copy of this letter.

The attachments to this letter contain information which should be withheld from public disclosure in accordance with 10 CFR 2.790.

If you should have any questions, please contact Mr. Mark Trump, Operations Training Manager at (717) 948-8418.

Sincerely,

T. G. Broughton
Vice President and Director, TMI-1

DVH/mkk

Attachments

cc: NRC ~~Chief Examiner~~
Senior Resident Inspector

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ATTACHMENT 2, FACILITY IDENTIFIED WEAKNESSES

The following weaknesses were identified by analysis of the examination results. Actions to address these weaknesses will be taken in accordance with established facility processes.

A. Written Exam Performance

Out of the 12 written examinations conducted, all were considered satisfactory by GPUN. Some of the examinees exhibited difficulty with:

1. Identifying conditions that may cause an erroneous indication on the Sub-Cooling Margin meters.

2. Determining the steps to use to swap makeup pumps during an ES condition with the diesel generators supplying the bus.

3. Identifying discrepancies on a TCN.

4. Identifying when independent verification on components is required.

5. Determining the required boron concentration required for hot shutdown for a short period of time where credit can be taken for Xenon.

6. Determining if a plant cooldown rate has been exceeded.

7. Identifying the basis for maintaining RCS pressure 25 to 100 psig above OTSG pressure when beyond curve B in ATP 1210-8.

8. Determining if the Reactor Protection System configuration satisfies Technical Specifications for a startup.

9. Determining the degree of redundancy for the Heat Sink Protection System with one channel de-energized.

10. Identifying the reason for the "Large MW Error in Track" alarm being actuated.

11. Determining the status of the PORV during a loss of power.

12. Predicting what will happen to Tave as natural circulation builds in.

B. JPM Task Performance

Out of the 60 individual JPM evaluations conducted, three were evaluated as unsatisfactory by GPUN. During the unsatisfactory evaluations, examinees demonstrated difficulties with:

1. Correctly identifying RB pressure following a large-break LOCA, therefore not recognizing failure of 30# RB spray and containment isolation actuation.

2. Manual initiation of HPI at the component level, due to not using procedure to perform or verify the task.

3. Returning a 4KV ES bus to its normal power supply from the emergency diesel generator, due to controlling incorrect voltages prior to closure of normal feeder breaker.

C. JPM Follow-up Questions

Some of the examinees demonstrated difficulties with:

1. Loss of vital bus power affects on the ESAS system.

2. Predicting which RPS trips would result from given transient conditions.

3. Identifying what signals increase reactor power when Feedwater is increased during operation of ICS in the Reactor/Turbine-following mode.

4. Two (2) methods for clearing ICCW line break isolation signal.

5. Operation and reset of the in-plant 480V breaker "Bell Alarm Switch".

D. Dynamic Simulator Examinations

1. Both crews initially tried to continue a controlled Reactor shutdown during an OTSG tube leak, following a turbine trip at 40% power. While this is allowed by procedure, Plant instabilities and problems with OTSG pressure control resulted in undesired MSSV lifts.

2. One crew had problems with command and control when the junior SRO was in either the SF or SS positions. Incorrect or incomplete direction by this individual complicated the events and degraded crew performance. The individual was rated as a fail and was removed from watch pending upgrade.

3. One RO had difficulty at manual control of OTSG pressures after a Reactor trip and caused excessive cooling of RCS which complicated events. The individual was rated as a fail and was removed from watch pending upgrade.

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ATTACHMENT 3, DISCUSSION OF FACILITY/NRC EXAM GRADING DISAGREEMENTS

Dynamic Simulator - Operator License 55-8537 NRC - PASS GPUN - FAIL

The dynamic simulator portion of the exam administered on January 29, 1991 showed considerable weakness in Crew B's performance. The crew performed well in its normal lineup. However, the performance deteriorated when crew supervision was rotated and the junior shift foreman (license 55-8537) was inserted as SS or SF. GPUN viewed his performance as unsatisfactory during this simulator exam and failed him in both the competency evaluation and on ISCTs relating to procedural direction.

JPM Examination - Operator License 55-6399 NRC - FAIL GPUN - PASS

An Alternate B JPM evaluation was conducted on January 30 and 31, 1991. This operator was presented with 5 JPMs and 10 questions. The NRC failed this operator on 1 JPM involving restoration of letdown. The procedure calls for a gradual restoration of flow to minimize stress on the letdown coolers. A self imposed limit of 2.5 GPM/Min increase rate is specified in the procedure and was listed as a critical step in the approved JPM evaluation tool. This operator increased flow at about 9 GPM/Min and was initially evaluated as fail by the GPU evaluator. Subsequent review led Operations and Training to revise the JPM standard to eliminate this as a critical step, as it did not meet the definition of a critical step per ES 601. A change to TMI procedures was initiated as a result of this evaluation.

Changing this step to non critical resulted in a passing grade on this JPM and an overall pass for this operator. The NRC declined to agree with the change to the JPM and rated this operator as unsatisfactory due to the combination of this JPM and his performance on the JPM questions.