



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

June 28, 1979

Docket No. 50-239

REGULATION DOWN THE CORE

LICENSEE: METROPOLITAN EDISON COMPANY (Met Ed/GPI'SC)
FACILITY: THREE MILE ISLAND UNIT NO. 1 (TMI-1)
SUBJECT: MEETING SUMMARY ON THE OPEN ITEMS REGARDING TMI-1 RESTART

On June 11, 1979 the TMI-1 licensee met with the NRC staff to discuss open items and proposed changes for restart of TMI-1.

A list of attendees is enclosed.

The subject matter presented by the licensee is as follows:

- (a) Retraining Program
- (b) Procedure Changes
- (c) Plant Modifications
- (d) Emergency Plan
- (e) Safety Analysis & Studies

A summary of these items is as follows and further details on the presentation concerning these topics are attached.

Retraining Program

The licensee committed to retraining approximately 40 reactor operators needed to cover the operating shifts. Furthermore, the licensee committed to have a degreed engineer present during plant operation to assist the shift supervisor. As part of the retraining programs, the operators will be taking college level technical courses in fluid flow, heat transfer and Thermodynamics. The staff indicated the qualification of the instructors for these courses should be addressed. The licensee was also advised to contact the NRC Operating Licensing Branch regarding the content of the technical courses for the operators. A criterion for retraining operators should be developed and be made part of the restart report. The proposed schedule for retraining shows the NRC examination

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period starts August 10, 1979 and to last for one week. NRC will consider this request with respect to other commitments for this period.

Procedure.

A total of 80 to 100 procedures are scheduled for review and revision as necessary to meet the criteria presented in the enclosure (Procedure Changes). The procedure review is being completed at an approximate rate of 3 per day and the licensee plans that the procedure reviews will be completed by the end of July 1979. The staff indicated that some of the procedures will be reviewed by the NRC staff and that the training schedule should reflect possible changes to the procedures as a result of the NRC review.

Modifications

The licensee proposed plant modifications some of which were committed to be completed prior to reactor restart and the remaining modifications to be completed as soon as practicable (See Enclosure 5).

The licensee committed to study the feasibility of installing reactor vessel level indication as well as remote (from outside containment) reactor vessel venting. The licensee also committed to resolving the problem of containment purge. Presently the licensee has committed to a valve analysis instead of limiting purging to 90 hours per year.

Emergency Plan

The licensee proposed to make changes to the emergency plan covering those items over which the licensee has direct control. The existing emergency plan submitted to the staff appears to be inadequate as to the depth of details existing in the plan. The licensee was requested to review Reg. Guide 1.101 in this regard. It was agreed that staff would discuss with the licensee the requirements in this area. However, reapproval of the emergency plan would be required prior to restart.

Safety Analysis & Studies

The licensee plans to review certain of the existing safety analyses as outlined in Enclosure 8. This review is expected to be completed prior to the restart of TMI-1.

Staff Comments & Future Plans

It was agreed to have a meeting during the week of June 25th (actual date to be established) at the site to discuss the future efforts on the TMI-1 restart. Although an agenda was discussed it will be finalized before the meeting.

It was indicated that it is likely that there will be a public meeting near the site where technical issues are discussed with the public. The question of a public hearing will be determined.

The question of TMI-1/TMI-2 physical separation during all operating modes of the two units would need to be addressed. The objective is that operating conditions of both units will not affect each other due to proximity and/or commonality of service facilities.

A complete response to the bulletins may not be necessary. The staff will give the licensee guidance as to those specific items to be covered in the bulletins.

Conclusion

The licensee indicated that according to his schedule he would be ready for restart about August 15, 1979.

These discussions resulted in no agreements or commitments by the staff regarding any aspect of the TMI-1 restart. The basis upon which TMI-1 would be allowed to restart, and the associated schedule, have not yet been established.

Original signed by

D. C. DiIanni, Project Manager
Operating Reactors Branch #4
Division of Operating Reactors

Enclosures:

1. List of Attendees
2. Agenda
3. Retraining Program
4. Procedural Changes
5. Control Modifications
6. Studies Required Prior to Restart
7. Emergency Plan
8. Safety Analysis

cc w/enclosures: See attached list

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OFFICE →	ORB#4:DOR DDI [initials] cb	C-ORB#4:DOR [initials]	AD-ORP:DOR W [initials]	AD-SEP:DOR [initials]	DD:DPM DRoss [initials]
SUBJECT LINE →					
DATE →	7/9/79	7/9/79	7/9/79	7/10/79	7/12/79

TMI-1 Restart Meeting

Enclosure 1

June 11, 1979

Attendees

<u>Name</u>	<u>Organization</u>
D. C. DiIanni Harley Silver R. H. Vollmer H. R. Denton Darrell Eisenhut Brian Grimes Bob Capra Bob Reid T. M. Novak Lawrence Chandler G. R. Klinger H. B. Kister John R. Sears Peter Tam	NRC
H. Dieckamp R. C. Arnold R. W. Heward, Jr. E. G. Wallace D. G. Slear R. F. Wilson	GPU
J. G. Herbein J. L. Seelinger A. Tsaggaris	MET ED
George F. Trowbridge	SHAW, PITTMAN (Counsel)
W. P. Dornsife	PA DER

AGENDA

INTRODUCTION AND OVERVIEW	R.C.ARNOLD
TRAINING	J.L.SEELINGER
PROCEEDURES	J.L.SEELINGER
PLANT MODIFICATIONS	D.G.SLEAR
EMERGENCY PLAN	A.TSAGGARIS
SAFETY ANALYSIS	E.G.WALLACE

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RETRAINING PROGRAM

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TME-1 SIMULATOR PROGRAM

REV. 1

SUBJECT	KAPIC DESCRIPTION	TOTAL HOURS
SMALL BREAK LOCA ANALYSIS	- GENERAL SCENARIO WITH VARIOUS EQUIPMENT FAILURES 1. CLASSROOM INSTRUCTION 2. SIMULATED OPERATION	4 HOURS
HEAT TRANSFER	- CLASSROOM INSTRUCTION - SIMULATED OPERATION	4 HOURS
DEPERFORIZATION ACCIDENTS & RECOVERY TECHNIQUES	- AS ABOVE	4 HOURS
RC-P LIMITATIONS AND RUN COMBINATIONS	- AS ABOVE	4 HOURS
	<u>TOTAL</u>	<u>16 HOURS</u>

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THI-1 ACCELERATED RETRAINING PROGRAM

PAGE 1 OF 4

TIME
ALLOCATION

SUBJECT	BASIC DESCRIPTION	TIME ALLOCATION
HEAT TRANSFER & FLUID DYNAMICS	<ul style="list-style-type: none"> - PROPERTIES OF WATER - PRESSURE/TEMPERATURE & SATURATION EFFECTS - METHODS OF HEAT TRANSFER (INCL. BOILING HEAT TRANSFER) - FLUID FLOW CONSIDERATIONS AND CHARACTERISTICS - TRANSIENT AND ACCIDENT THERMAL PERFORMANCE (INCL. LOUVER-BEEDS WITH-OUT INCIDENTS) 	16 HOURS
USE OF PROCEDURES	<ul style="list-style-type: none"> - OPERATOR GUIDING FULL PROCEDURE UTILIZATION DURING NORMAL AND ABNORMAL PLANT CONDITIONS 	1 HOUR
CATEGORY F/L REVIEW	<ul style="list-style-type: none"> - REVIEW OF MAJOR PLANT PROCEDURES INCLUDING: <ol style="list-style-type: none"> 1. OPERATING PROCEDURES 2. ABNORMAL PROCEDURES 3. EMERGENCY PROCEDURES 4. ADMINISTRATIVE PROCEDURES 5. PLANT LIMITS & PRECAUTIONS - ALSO TO INCLUDE RECENT CHANGES TO THESE PROCEDURES 	16 HOURS
CATEGORY F/H REVIEW	<ul style="list-style-type: none"> - REACTOR THEORY INCLUDING: <ol style="list-style-type: none"> 1. SPATIAL/TEMPERATURE MULTIPLICATION 2. REACTIVITY 3. CONTROL POLICE 4. REACTIVITY COEFFICIENTS 5. DOP FACTOR FORMULA 6. VOIDING EFFECTS 	4 HOURS

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TMI-1 ACCELERATED RETRAINING PROGRAM

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SUBJECT	BASIC DESCRIPTION	TIME ALLOCATED
CATEGORY B REVIEW	- FACILITY DESIGN CHARACTERISTICS OF MAJOR AND AUXILIARY SYSTEMS & COMPONENTS INCLUDING: REACTOR COOLANT SYSTEM REACTOR VESSEL CONSTRUCTION REACTOR COOLANT PUMPS MAKE-UP & DEMINERALIZATION DEEP HEAT REMOVAL FEEDWATER EMERGENCY FEEDWATER CONDENSATE	3 HOURS
RCS ELEVATIONS & MANOMETER EFFECTS	- STUDY OF RELATIVE ELEVATION OF VARIOUS RCS COMPONENTS AND POSSIBLE EFFECTS DUE TO ELEVATION DIFFERENCES AND WATER LEVEL & PRESSURE VARIATIONS.	2 HOURS
CATEGORY C/D REVIEW	- GENERAL & SPECIFIC OPERATIONAL CHARACTERISTICS INCLUDING: 1. PRESURIZER OPERATION 2. PLANT RESPONSE TO: STEP LOAD CHANGES RAMP LOAD CHANGES 3. DNB CONSIDERATIONS	3 HOURS
TMI-2 TRANSIENT	- SEQUENCE OF EVENTS - ANALYSIS OF PLANT BEHAVIOR	2 HOURS
CATEGORY D REVIEW	- IDENTIFICATION OF AND CONTROL OF THE FOLLOWING: 1. NUCLEONIC 2. NUCLEONIC 3. INSTRUMENTATION 4. INSTRUMENTATION	3 HOURS

→ NRC Categories

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TMI-1 ACCELERATED RETRAINING PROGRAM

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SUBJECT	BASIC DESCRIPTION	TIME ALLOCATED
LIQUID/GAS RELEASES	- EXISTING PROCEDURES AND CHANGES IN RELATION TO TMI-2 ACCIDENT	2 HOURS
CATEGORY G/I REVIEW	- RADIOACTIVE MATERIAL HANDLING & DISPOSAL - RADIATION CONTROL AND SAFETY INCLUDING: 1. TYPES OF RADIATION 2. SOURCES OF RADIATION 3. MONITORING INSTRUMENTATION 4. DOSE CALCULATIONS: a. DOSE RATE b. STAY TIME c. X/O e. BIOLOGICAL EFFECTS	4 HOURS
CATEGORY K REVIEW	- FUEL HANDLING AND CORE PARAMETERS INCLUDING: 1. FUEL OPERATION AND INTERLOCKS 2. TECHNICAL SPECIFICATIONS 3. VM CALCULATIONS 4. CORE CHARACTERISTICS a. DESIGN b. OPERATING LIMITS	2 HOURS
CATEGORY E REVIEW	- SAFETY & EMERGENCY SYSTEM DESIGN AND OPERATING PROCEDURES INCLUDES: 1. E-CC 2. EMERGENCY OPERATING PROCEDURES 3. CONTAINMENT OPERATING PROCEDURES 4. SAFETY SYSTEMS	2 HOURS

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TMI-1 ACCELERATED RETRAINING PROGRAM		MONTH 4 OF 4
SUBJECT	BASIC DESCRIPTION	TIME ALLOCATED
TMI EMERGENCY PLAN / PROCEDURES	<ul style="list-style-type: none"> - REVIEW OF EMERGENCY PLAN ACTIONS AND RESPONSIBILITIES - RECENT CHANGES TO TMI EMERGENCY PLAN 	4 HOURS
EXPECTED INSTRUMENT AND PLANT RESPONSE TO TRANSIENTS	<ul style="list-style-type: none"> - CLASSROOM INSTRUCTION 	2 HOURS
SIMULATED TRANSIENTS IN CONTROL ROOM	<ul style="list-style-type: none"> - BRIEF DRILLS RELATED TO THE ABOVE SUBJECT 	3 HOURS
SMALL BREAK LOCA OPERATOR GUIDANCE	<ul style="list-style-type: none"> - OPERATIONAL / PROCEDURAL GUIDANCE AND PLANT TRANSIENT BEHAVIOR FOR VARIOUS CLASSES OF SMALL BREAKS WITH AND WITHOUT EMERGENCY LOCKOUTS - TRANSIENTS WITH SIMILAR INITIAL RESPONSES - TRANSIENTS WHICH MIGHT INITIATE A LOCA 	4 HOURS
TMI-1 CHANGE MODE (RM)	<ul style="list-style-type: none"> - MODIFICATIONS NO BEARING TO TMI-1 FACILITY 	4 HOURS
TMI-1 CHANGE MODE (LM)	<ul style="list-style-type: none"> - LONG RANGE MODIFICATIONS TO BE CONSIDERED IN CONNECTION WITH TMI-1 REFINEMENT 	4 HOURS
SELF-STUDY & TUTORING	<ul style="list-style-type: none"> - INDIVIDUALIZED INSTRUCTION FOR STUDENTS CONCERNED IN AREAS OF WEAKNESS 	25 HOURS

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PROCEDURES OF 1981

EMERGENCY PROCEDURES

1. Adding objectives section in follow-up action.
2. Insuring procedures reflect NRC Bulletin guidance including:
 - A. Adequate subcooling
 - B. Continued RCP operation
 - C. Non-defeat of E.S. equipment unless continued operation results in unsafe plant conditions
3. Incorporating philosophy of using multiple plant parameters to judge Reactor Coolant conditions.
4. Stressing the heat transfer aspect of maintaining adequate cooling at all times.
5. Adding a natural circulation procedure.

ADMINISTRATIVE PROCEDURES

1. Formalizing shift relief procedure through the use of turnover check lists.
2. Insure recall of standby personnel procedure reflects latest emergency planning.
3. Adding an emergency reporting procedure to reflect new NRC phones and guidance.

SURVEILLANCE/P.M.'s/MAINTENANCE PROCEDURES

1. Following procedure to insure no one (1) safety train is defeated during maintenance or testing operations.
2. Incorporating into procedures major valve and switch position checks of alternate trains of emergency equipment prior to performance of maintenance/testing.
3. Insuring that procedures require a specific signed switch/valve alignment sheet be used to restore emergency systems to service.

OPERATING PROCEDURES

1. Changing procedures to conform to plant modifications.
2. Reviewing for technical adequacy and incorporation of lessons learned in the TMI-II accident.

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CROSS REFERENCE TMI-1 CONTROL MODIFICATIONS
TO SCHEDULE NUMBER 14 PRIOR TO RESTART

SUBJECT	DESCRIPTION
REACTOR SCRAM (RM-3)	<ul style="list-style-type: none"> • REDUCE HIGH PRESSURE REACTOR SCRAM SETPOINT TO 2300 PSIG. • PROVIDE A CONTROL GRADE ANTICIPATORY REACTOR SCRAM FOR LOSS OF FEEDWATER AND TURBINE TRIP. • PROVIDE A SAFETY GRADE SCRAM FOR LOSS OF FEEDWATER AND TURBINE TRIP <u>AS SOON AS PRACTICAL.</u>

TMI-1 INSTRUMENTATION MODIFICATIONS

PRIOR TO RESTART

SUBJECT	DESCRIPTION
INSTRUMENTATION INSIDE CONTAINMENT (RM-1)	<ul style="list-style-type: none">• UPGRADE THE RELIABILITY OF INSTRUMENTS AND VALVE OPERATORS INSIDE CONTAINMENT BY THE ADDITION OF HEAT SHRINK TUBING TO IMPROVE WATERTIGHTNESS.• RAISE OTSG LEVEL TRANSMITTERS (LT1, LT2, LT4) TO A HEIGHT OF 72 INCHES ABOVE THE CONTAINMENT BASEMENT FLOOR.
INCORE THERMOCOUPLES (RM-4)	<ul style="list-style-type: none">• COMPLETE TERMINATION OF CR-AL INCORE THERMOCOUPLES TO THE CONTAINMENT PENETRATION.• HOOK-UP A MINIMUM OF 16 SELECTED INCORES TO THE COMPUTER PRIOR TO RESTART.• PROVIDE WIDE RANGE (UP TO 2300°F) READOUT ON DATA LOGGER.
CONTAINMENT ISOLATION (RM-5)	<ul style="list-style-type: none">• MODIFY WIRING AND TERMINATIONS TO INITIATE ISOLATION OF ALL LINES WHOSE ISOLATION DOES NOT DEGRADE CORE COOLING CAPABILITY UPON AUTOMATIC INITIATION OF HIGH PRESSURE INJECTION.

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SUBJECT	DESCRIPTION
CONTROL ROOM VALVE POSITION INDICATION (RM-6)	<ul style="list-style-type: none">• FOR VALVE POSITION INDICATION THAT IS DEMAND VICE ACTUAL, MAKE A CONSCIOUS DECISION ON WHICH TO CHANGE, TO ACTUAL POSITION OR PROVIDE INDICATION TO OPERATOR THAT THE POSITION IS DEMAND VICE ACTUAL.
COMPUTER (RM-7)	<ul style="list-style-type: none">• ELIMINATE BACKLOGGING IN THE COMPUTER OF ALARM MESSAGES DUE TO OUTPUT LIMITS OF 855 SELECTRIC TYPERS.• IMPROVE RELIABILITY OF COMPUTER OUTPUT ALARM THROUGH REDUNDANT TYPERS.
POWER OPERATED RELIEF VALVE (RM-9)	<ul style="list-style-type: none">• RAISE THE SETPOINT TO 2450 PSIC SO THAT ANTICIPATED TRANSIENTS DO NOT OPEN PORV.
PORV POSITION INDICATION (RM-10)	<ul style="list-style-type: none">• REPLACE CURRENT PORV POSITION INDICATION IN THE CONTROL ROOM WITH POSITIVE INDICATION. THE INDICATION SHALL BE CAPABLE OF UNAMBIGUOUSLY DETECTING WHEN VALVE IS STUCK OPEN.

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TMI-1 SYSTEM MODIFICATIONS

PRIOR TO RESTART

SUBJECT	DESCRIPTION
DECAY HEAT (RM-2)	<ul style="list-style-type: none">• MODIFY THE DECAY HEAT SYSTEM TO PROVIDE FOR MONITORING AND MAINTENANCE FROM A REMOTE LOCATION.• MINIMIZE PERSONNEL EXPOSURE.• ENHANCE RELIABILITY.
TMI-2 REACTOR COOLANT SAMPLING (RM-11)	<ul style="list-style-type: none">• PROVIDE A NEW NUCLEAR SAMPLING FACILITY FOR TMI-2 SO THAT NORMAL OPERATIONS OF TMI-1 WILL NOT BE DISRUPTED BY TMI-2 RECOVERY OPERATION SAMPLING.
HYDROGEN RECOMBINER (RM-12)	<ul style="list-style-type: none">• PROVIDE PERMANENT H₂ RECOMBINER INSTALLATION INCLUDING PIPING AND MANUAL VALVES BETWEEN RECOMBINER AND CONTAINMENT.
EMERGENCY FEEDWATER (RM-13)	<ul style="list-style-type: none">• PROVIDE FOR AUTO INITIATION OF MOTOR DRIVEN EFW FOLLOWING LOSS OF 4 PCP'S OR LOSS OF BOTH FEED PUMPS.
HIGH PRESSURE INJECTION (RM-14)	<ul style="list-style-type: none">• COMPLETE THE APPROVED SMALL BREAK LOCA MODIFICATION TO THE HPI SYSTEM BY THE ADDITION OF CROSS CONNECTS AND NEW VALVES.

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TMI-1 INSTRUMENTATION MODIFICATIONS

AS SOON AS PRACTICAL

SUBJECT	DESCRIPTION
INSTRUMENTATION INSIDE CONTAINMENT (LM9)	<ul style="list-style-type: none">• RAISE PRESSURIZER LEVEL TRANSMITTERS (LT1, LT2, LT3) TO A HEIGHT OF 72 INCHES ABOVE THE CONTAINMENT BASEMENT FLOOR.
INCORE THERMOCOUPLES (LM6)	<ul style="list-style-type: none">• HOOK-UP ALL 52 INCORES TO THE COMPUTER.
COMPUTER	<ul style="list-style-type: none">• PROVIDE A MEANS FOR OPERATOR TO CALL UP AND DISPLAY NSSS RELATED DATA IN GRAPHIC TREND OR FIXED FORMAT.
PCS SATURATION MARGIN MONITOR (LM-1)	<ul style="list-style-type: none">• ALARM, INDICATION AND TRENDING OF THE MARGIN TO THE LIMITING SATURATION CONDITION IN THE REACTOR COOLANT SYSTEM. CONTINUOUS DISPLAY OF THE REACTOR COOLANT SYSTEM SATURATION MARGIN IN TERMS OF PSI (OF) MARGIN TO THE PLANT OPERATOR.
RCS TEMPERATURE (LM-2)	<ul style="list-style-type: none">• INCREASE THE RANGE OF HOT LEG AND COLD LEG TEMPERATURE IN THE COMPUTER.

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TMI-1 SYSTEM MODIFICATIONS

AS SOON AS PRACTICAL

SUBJECT	DESCRIPTION
BWST SWITCHOVER (LM-4)	<ul style="list-style-type: none">• AUTOMATE THE SWITCHOVER FROM THE BWST TO THE CONTAINMENT SUMP FOR LPI RECIRCULATION POST-LOCA.
WASTE GAS TANK VENTING (LM-5)	<ul style="list-style-type: none">• PROVIDE PIPING AND VALVES NECESSARY TO VENT WASTE GAS TANKS BACK TO CONTAINMENT.
REACTOR BUILDING SPRAY SYSTEM (LM-7)	<ul style="list-style-type: none">• MODIFY PIPING TO PROVIDE EQUAL DRAWDOWN OF BWST AND NaOH TANK UNDER ALL SINGLE FAILURE CONDITIONS.• DELETE SODIUM THIOSULFATE ADDITION.
REACTOR BUILDING COOLING FAN MOTORS (LM-12)	<ul style="list-style-type: none">• RESOLVE PROBLEMS WITH WATER SEALS ON FAN MOTORS.
FUEL HANDLING BUILDING (LM-16)	<ul style="list-style-type: none">• BUILD AN AIRTIGHT BARRIER TO SEPARATE TMI-1 FINE FROM TMI-2 IN ORDER TO PRECLUDE AIRBORNE RELEASES AT TMI-2 FROM CONTAMINATING TMI-1.

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SUBJECT	DESCRIPTION
CONCRETE COATING (LM-10)	<ul style="list-style-type: none">• THOROUGHLY COAT CONCRETE IN THE CONTAINMENT AND AUXILIARY BUILDING LOWER LEVELS IN ORDER TO PRECLUDE PENETRATION BY CONTAMINATION.
CONTAINMENT SUMP WATER (LM-8)	<ul style="list-style-type: none">• PROVIDE WATER LEVEL MEASUREMENT CAPABILITY (0'-10' ± 2") WITHOUT OPENING CONTAINMENT ISOLATION VALVES.• PROVIDE A SAMPLING CAPABILITY FOR CONTAINMENT SUMP WATER.

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TMI-1 STUDIES

REQUIRED PRIOR TO RESTART

NUMBER	SUBJECT	DESCRIPTION
RS-1	LOCA	Determine if safety analyses have adequately addressed specific locations of LOCA. Review proposed TMI-1 small break fix.
RS-2	Containment Isolation	Evaluate the need for additional containment isolation signals. Evaluate the adequacy of existing signals.
RS-3	Post Accident Monitoring	a) Evaluate extended range readouts for existing qualified equipment. b) Evaluate addition of new instruments for post-accident monitoring. c) Review and evaluate signals currently connected to transient monitor.
RS-4	Cold Shutdown	Review instrumentation and equipment required to achieve cold shutdown. Ensure the equipment is adequate for LOCA/MSLB environmental conditions and if necessary, watertight. Raise elevations if necessary.
RS-5	Pressurizer Relief Valve Position	Evaluate how to provide indication of instrumentation for detecting leaking/stuck open valves. Consider existing temperature detectors, relocated RTD's, differential pressure flow indication, thermal flow switches and acoustics.
RS-6	Valve Position Indication	Evaluate the need for position indication in control room on valves currently not indicated in the control room.

694-296

NUMBER	SUBJECT	DESCRIPTION
RS-7	Radiation Monitoring	Evaluate installed inplant radiation monitoring capability with regard to range, location, filter status determination, etc.
RS-8	Containment Normal Cooling	Review upgrading the containment normal cooling system and the leak tightness of systems in containment to improve operating environment with Vent and Purge Valves continuously closed.
RS-9	PORV Reliability	Assess the reliability of the PORV.
RS-10	Pressurizer Vent Valve	Evaluate the need for alternate power for the Pressurizer Vent Valve operators.
RS-11	Pressurizer Code Safety Valves	Evaluate the capability of Pressurizer Code Safety Valves to pass adequate water during solid plant operation.
RS-12	Reactor Drain Tank	Reassess the rupture disc set pressure on the reactor drain tank and see if it should be replaced by a higher pressure device.
RS-13	Containment Building Sump Water	Evaluate the potential for boron dilution in containment building sump water during DBA's. Determine the need for mixing capability and/or the capability to provide higher boron concentrations in sump water.

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NUMBER	SUBJECT	DESCRIPTION
RS-14	Decay Heat System	<p>Review the decay heat system with respect to the Design Basis Accidents and other anticipated operating conditions. Consider the following:</p> <ul style="list-style-type: none">a) Added shielding to protect components or personnel.b) Remote TV monitoring.c) Move transmitters out of DH pump room.d) Move radiation monitors away from DH pits.e) Ventilation changes to minimize offsite exposure.f) Ventilation changes to minimize the spread of contamination and airborne release.g) Collecting seal leakage in a manner that minimizes noble radioactive gas releases.
RS-15	Emergency Feedwater System	<p>Provide or review a single failure analysis of the installed system, evaluate deviations and make recommendations.</p>
RS-16	TMI-1/TMI-2 Shared Systems	<p>Evaluate the systems shared between TMI-1 and TMI-2 and the need to provide separation prior to restart and/or in the long term.</p>
RS-17	Spent Fuel Pool Cooling	<p>Review status of spent fuel pool cooling line leakage. What repairs should be made prior to restart?</p>

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NUMBER	SUBJECT	DESCRIPTION
RS-18	Containment Building Temperature	Review location of containment building atmosphere monitoring thermocouples and verify that the technical specification limit to shutdown at 130° F average containment temperature can be based on the installed thermocouples.
RS-19	Condenser Off Gas Filter	Evaluate the need to add a condenser off gas filter to TMI-1.
RS-20	Instrument Air	Evaluate the status of Instrument Air at TMI-1. Are we providing clean/dry instrument air?
RS-21	Reactor Coolant Pump Power	Evaluate the need to move the surge suppression capacitors outside containment to improve RCP reliability.
RS-22	Waste Gas System	Evaluate the need for making more sensitive leak checks of the system.

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Item 6

EMERGENCY PLAN

NRC Meeting: June 11, 1979

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I. ORGANIZATION - Four Phase Approach

A. Phase I - on shift complement

B. Phase II - Emergency Organization as defined in the current
Emergency Plan

C. Phase III - Met-Ed/GPU manned organization that would mobilize and
staff an off-site emergency control station

1. HP Support

a. TLD Control

b. Environmental sampling, analysis and effluent
assessment

c. In-plant sample coordination

d. Manpower coordination

2. Communication backup

3. Maintenance - manpower coordination

4. Logistics Coordination - company and non-company resources

5. Security - badging and plant access

6. Administrative Support

D. Phase IV - Comprehensive organization to coordinate all aspects of
a long term accident recovery

1. Plant Operation

2. Waste Management

3. Plant Modifications

4. Technical Support

5. Technical Working Group

6. Task Management/Scheduling

7. Administration and Logistics

8. Public/Government Affairs

II. COMMUNICATIONS EQUIPMENT UPGRADE

A. Control Rooms

1. Direct line to NRC
2. Hot line to off-site emergency control center
3. Additional outside lines
4. Multiple conference call capability
5. Independent lines to Met-Ed/GPUSC Management

B. Off-site Emergency Control Center - Primary and Backup

1. Radio capability
2. Hot lines to each control room
3. Multiple dial telephone capability

C. Other

1. Split OPs. and Security frequencies
2. Improve monitoring team equipment
3. Tape recording capability

III. EMERGENCY EQUIPMENT

A. Radiation Monitoring Team Kits

B. Inverters

C. Respirators

D. TLD's - including off-site reading capability

E. Portable GELI

F. SCEA's or plug in air system

IV. COORDINATION OF INDUSTRY RESOURCES

- A. Identify specific resources (material and manpower) required for accident support *be define + coordinated*
- B. Obtain Letters of Agreement

V. COMMUNICATIONS

- A. CD, State Agencies, Local Communities
- B. Release of Information to Public
- C. NRC

VI. METHOD

- A. Develop EMERGENCY PREPAREDNESS PLAN
- B. Train personnel
- C. Conduct exercises

EMERGENCY PLAN

NRC Meeting: June 11, 1979

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I. ORGANIZATION - Four Phase Approach

- A. Phase I - on shift complement
- B. Phase II - Emergency Organization as defined in the current
Emergency Plan
- C. Phase III - Met-Ed/GPU manned organization that would mobilize and
staff an off-site emergency control station
1. HP Support
- a. TLD Control
- b. Environmental sampling, analysis and effluent
assessment
- c. In-plant sample coordination
- d. Manpower coordination
2. Communication backup
3. Maintenance - manpower coordination
4. Logistics Coordination - company and non-company resources
5. Security - badging and plant access
6. Administrative Support
- D. Phase IV - Comprehensive organization to coordinate all aspects of
a long term accident recovery
1. Plant Operation
2. Waste Management
3. Plant Modifications
4. Technical Support
5. Technical Working Group
6. Task Management/Scheduling
7. Administration and Logistics
8. Public/Government Affairs

Expand

Expand

II. COMMUNICATIONS EQUIPMENT UPGRADE

A. Control Rooms

1. Direct line to NRC
2. Hot line to off-site emergency control center
3. Additional outside lines *- includes vendor*
4. Multiple conference call capability
5. Independent lines to Met-Ed/GPUSC Management

B. Off-site Emergency Control Center - Primary and Backup

1. Radio capability ~~_____~~
2. Hot lines to each control room
3. Multiple dial telephone capability

C. Other

1. Split OPs. and Security frequencies
2. Improve monitoring team equipment
3. Tape recording capability

III. EMERGENCY EQUIPMENT

- A. Radiation Monitoring Team Kits
- B. Inverters
- C. Respirators
- D. TLD's - including off-site reading capability
- E. Portable GELI
- F. SCBA's or plug in air system

IV. COORDINATION OF INDUSTRY RESOURCES

- A. Identify specific resources (material and manpower) required for accident support
- B. Obtain Letters of Agreement

V. COMMUNICATIONS

- A. CD, State Agencies, Local Communities
- B. Release of Information to Public
- C. NRC

*Improvements
Planual.*

VI. METHOD

- A. Develop EMERGENCY PREPAREDNESS PLAN
- B. Train personnel
- C. Conduct exercises

SAFETY ANALYSIS

- I. Reviewed the TMI-1 Safety Analysis to:
 - A. Determine where operator action was essential to the completion of response;
 - B. Determine where plant changes may effect the current bounding analyses.

- II. Concluded that the Following Analysis should be done:
 - A. Loss of Feedwater - to review changes to AFW systems and operator actions.
 - B. Loss of Off Site Power - to review changes to AFW systems and transition to Natural Circulation

- III. Safety Analysis Review of B&W Small Break LOCA and Transient Analysis Reports
 1. Review to insure it reflects the TMI-1 plant design
 2. Review to insure appropriate operator guidelines are reflected in procedures.

- IV. Modify the Small Break LOCA Analysis to Reflect HPI Cross Connect Modifications.

MEETING SUMMARY DISTRIBUTION

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