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Regulatory

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RETURN TO REGULATORY CENTRAL FILES  
ROOM 016



Comparison of Three Mile Island  
Procedures with  
Safety Guide 33 and ANS 3.2 Requirements

RETURN TO REGULATORY CENTRAL FILES  
ROOM 016

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SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2A. Administrative Procedures

1. Security and Visitor Control	Paragraph 5.1.8	ADMIN 1005	Security
2. Authorities and Responsibilities for Safe Operation and Shutdown	Paragraph 5.1, 5.1.1 & 5.1.3	ADMIN 1009	Station Organization & Chain of Command
3. Equipment Control (e.g., Locking and Tagging)	Paragraph 5.1.5 & 5.3.5	ADMIN 1002 ADMIN 1011	Tagging Locked Valve Control
4. Procedure Adherence and Temporary Change Method	Paragraph 5.1, 5.1.2 & 5.5	ADMIN 1001	TMI Procedure Control
5. Procedure Review and Approval	Paragraph 5.4	ADMIN 1001	TMI Procedure Control
6. Schedule for Surveillance Tests and Calibration	Paragraph 5.1.7 & 6.4	ADMIN 1010	Surveillance Test Schedule
7. Shift and Relief Turnover	Paragraph 5.1 & 5.1.3	ADMIN 1012	Shift Relief and Log Entries
8. Log Entries and Record Retention	Paragraph 5.1.3 & 5.2	ADMIN 1007 ADMIN 1012	Control of Records Shift Relief and Log Entries
		Section XVII of TMI Operating Quality Assurance Plan	
9. Access to Containment	Paragraph 5.1.3	OP 1101-3 HP 1630	Containment Int. & Access Limits Access to Containment
10. Bypass of Safety Functions	Paragraph 5.1.5	ADMIN 1013	Bypass of Safety Functions and Jumper Control
11. Recall of Standby Personnel to Plant	Paragraph 5.1	ADMIN 1014	Call of Standby Personnel to Plant

SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2B. General Plant Operating Procedures

1. Startup--Cold to Hot	Paragraph 5.3.4.1	OP 1102-1	Plant Heatup to 525° F.
		OP 1102-2	Plant Start-up
2. Nuclear Startup to Minimum Load	Paragraph 5.3.4.1	OP 1102-1	Plant Heatup to 525° F.
		OP 1102-2	Plant Start-up
		OP 1103-8	Approach to Criticality
3. Scram Recovery	Paragraph 5.3.4.1	OP 1102-2	Plant Start-up
4. Operation at Hot Standby	Paragraph 5.3.4.1 & 5.3.4.2	OP 1102-10	Plant Shutdown
		EP 1202-4	Reactor Trip
5. Turbine Startup and Synchronization of Generator	Paragraph 5.3.4.1	OP 1102-2	Plant Start-up
6. Changing Load and Load Follow	Paragraph 5.3.4.3	OP 1102-4	Power Operation
7. Power Operation and Process Surveillance	Paragraph 5.3.4.3 & 5.3.4.4	OP 1102-4	Power Operation
		OP 1103-15	Reactor Balance Calculations
		OP 1103-16	Heat Balance Calculations
		SP 1301	Checks
		SP 1302	Calibration
		SP 1303	Tests
8. Power Operation with Less than Full Recirculation Flow	Paragraph 5.3.4.3	OP 1102-4	Power Operation
9. Shutdown	Paragraph 5.3.4.2	OP 1102-10	Plant Shutdown
		OP 1102-11	Plant Cooldown
10. Preparation for Refueling, Refueling Equipment Operation and Core Alterations	Paragraph 5.3.4.5	IFI 101	Administrative Structure
		thru 209*	& Instructions
		IFP 201	Receipt Inspection, Pit-up of New
		thru 605*	Fuel, & Storage of Core
			Preparation for Core Assembly
			Reactor Assembly
			Equipment Operation Instructions
			Contingency Procedures

\*Initial Fueling Instructions (IFI) and Initial Fueling Procedures (IFP) to be used as the basis for preparing necessary refueling procedures.

SAFETY GUIDE 33, APPENDIX A REQUIREMENTC. Procedures for Startup, Operation, and Shutdown of Safety Related PWR Systems

## 1. Reactor Coolant System

Paragraph 5.3 &amp; 5.3.3

OP 1103-2 Filling & Venting Reactor Coolant System  
OP 1103-5 Pressurizer Operation  
OP 1103-6 Reactor Coolant Pump Operation  
OP 1103-11 Draining & N<sub>2</sub> Blanketing R.C. System

## 2. Control Rod Drive System

Paragraph 5.3 &amp; 5.3.3

OP 1105-9 Control Rod Drive System

## 3. Reactor Cleanup System

Paragraph 5.3 &amp; 5.3.3

OP 1103-4 Soluble Poison Concentration Control  
OP 1104-2 Make-up & Purification System  
OP 1104-29A Reactor Coolant Cleanup Proc.  
OP 1104-29E Bleed & Feed Processes

## 4. Shutdown Cooling System

Paragraph 5.3 &amp; 5.3.3

OP 1104-4 Decay Heat Removal System  
OP 1104-13 Decay Heat Closed Cooling  
OP 1104-32 Decay Heat River Water

## 5. Emergency Core Cooling System

Paragraph 5.3 &amp; 5.3.3

OP 1104-1 Core Flooding System  
OP 1104-2 Make-up & Purification System  
CP 1104-4 Decay Heat Removal System

## 6. Component Cooling Water Systems

Paragraph 5.3 &amp; 5.3.3

OP 1104-8 Intermediate Cooling System  
OP 1104-11 Nuclear Service Closed Cooling  
OP 1104-30 Nuclear Service River Water

## 7. Containment Cooling System

Paragraph 5.3 &amp; 5.3.3

OP 1104-5 Reactor Building Spray  
OP 1104-38 Reactor Building Emergency Cooling River Water

TMI PROCEDURE IMPLEMENTING OR SATISFYING REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

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SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

C. Procedures for Startup, Operation, and  
Shutdown of Safety Related PWR Systems  
(Continued)

8. Containment	Paragraph 5.3 & 5.3.3	
a. Maintaining Containment Integrity		OP 1101-3 Containment Integrity & Access Limits
b. Special Containment Systems		OP 1104-16 Penetration Cooling System OP 1104-20 Fluid Block System OP 1104-4 Reactor Building Heating and A thru F Ventilation
c. Containment Cleanup System		OP 1102-14 Reactor Building Purging and Venting
9. Irradiated Fuel Storage Pool	Paragraph 5.3 & 5.3.3	OP 1104-6 Spent Fuel Cooling OP 1104-15A Auxiliary & Fuel Handling Building Supply and Exhaust System OP 1104-29C Spent Fuel Pool Cooling Water Clean-up Process
10. Main Steam System	Paragraph 5.3 & 5.3.3	OP 1106-5 Turbine Bypass OP 1106-14 Main Steam
11. Pressurizer Pressure and Spray Control	Paragraph 5.3 & 5.3.3	OP 1103-5 Pressurizer Operation
12. Feedwater System	Paragraph 5.3 & 5.3.3	OP 1106-2 Condensate System OP 1106-3 Feed System OP 1106-6 Emergency Feed OP 1106-13 Powdex OP 1106-16 OTSG Secondary Fill, Drain & Layup

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C. Procedures for Startup, Operation, and  
Shutdown of Safety Related PWR Systems  
(Continued)

13. Service Water System	Paragraph 5.3 & 5.3.3	OP 1104-11 Nuclear Service Closed Cooling OP 1104-30 Nuclear Service River Water
14. Chemical and Volume Control System	Paragraph 5.3 & 5.3.3	OP 1102-12 Hydrogen Addition & Degasification OP 1103-4 Soluble Poison Concentration Control OP 1104-2 Make-up & Purification OP 1104-29E Bleed & Feed OP 1104-47 Chemical Addition Nuclear
15. Auxiliary Building Heating & Ventilation	Paragraph 5.3 & 5.3.3	OP 1104-15A Auxiliary & Fuel Handling Building Supply & Exhaust System
16. Radwaste Building Heating and Ventilation	Paragraph 5.3 & 5.3.3	Not Applicable
17. Fire Protection System	Paragraph 5.3 & 5.3.3	OP 1104-45 Fire Service Water & Tunnel Device Actuation
18. Instrument Air System	Paragraph 5.3 & 5.3.3	OP 1104-25 Instrument Compressed Air
19. Electrical System	Paragraph 5.3 & 5.3.3	OP 1107-1 Normal Electrical System OP 1107-2 Emergency Electrical System OP 1107-3 Diesel Generator
a. Offsite		
b. Onsite (Emergency, A-C, D-C)		
20. Nuclear Instrument System	Paragraph 5.3 & 5.3.3	
a. Source, Intermediate, Power Range		OP 1105-1 Nuclear Instrumentation
b. Incore		OP 1105-5 Incore Monitoring System

<u>SAFETY GUIDE 33, APPENDIX A REQUIREMENT</u>	<u>ANS 3.2 REQUIREMENT</u>	<u>TMI PROCEDURE IMPLEMENTING OR SATISFYING REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2</u>	
C. <u>Procedures for Startup, Operation, and Shutdown of Safety Related PWR Systems</u> (Continued)			
21. Area Radiation Monitoring System	Paragraph 5.3 & 5.3.3	OP 1105-8	Radiation Monitoring System Operating Procedure & Setpoints
22. Process Radiation Monitoring System	Paragraph 5.3 & 5.3.3	OP 1105-8	Radiation Monitoring System Operating Procedure & Setpoints
23. Reactor Control and Protection System	Paragraph 5.3 & 5.3.3	OP 1105-2 OP 1105-4	Reactor Protection System Integrated Control System
24. Hydrogen Recombiner	Paragraph 5.3 & 5.3.3		Not Applicable (See Item C.8[c])
25. Communications System	Paragraph 5.3 & 5.3.3	OP 1105-12	Communications Systems
D. <u>Procedures for Startup, Operation, and Shutdown of Safety Related BWR Systems</u>			Not Applicable
E. <u>Procedures for Correcting Abnormal, Offnormal or Alarm Conditions</u>	Paragraph 5.3.3 & 5.3.8		Response to Alarm Instructions Offnormal Conditions Covered by Operating, Emergency or Abnormal Procedures
F. <u>Procedures for Combating Emergencies and Other Significant Events</u>			
1. Loss of Coolant (including steam generator leaks)(inside and outside primary containment)(large and small, including leak rate determination)	Paragraph 5.3.8.2(1)	EP 1202-6 SP 1303-1.1	Loss of Reactor Coolant/Reactor Coolant Pressure Reactor Coolant System Leakage

SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2F. Procedures for Combating Emergencies  
and Other Significant Events  
(Continued)

2. Loss of Instrument Air		EP 1202-36 Loss of Instrument Air
3. Loss of Electrical Power (and/or Degraded Power Sources)	Paragraph 5.3.8.2(4)	EP 1202-1 Load Rejection EP 1202-2 Blackout
4. Loss of Coolant Flow	Paragraph 5.3.8.2(2)	EP 1202-14 Loss of Reactor Coolant Flow/RCP Trip
5. Loss of Condenser Vacuum		EP 1202-3 Turbine Trip
6. Loss of Containment Integrity	Paragraph 5.3.8.2(9)	OP 1101-3 Containment Integrity & Access Limits
7. Loss of Service Water		EP 1202-19 River Water System Failure
8. Loss of Shutdown Cooling	Paragraph 5.3.8.2(3)	EP 1202-33 Decay Heat Closed Cooling System Failure EP 1202-35 Loss of Decay Heat Removal System
9. Loss of Component Cooling System	Paragraph 5.3.8.2(3)	EP 1202-17 Loss of Intermediate Cooling System EP 1202-20 Nuclear Service Closed Cooling Failure
10. Loss of Feedwater and Feedwater System Failure	Paragraph 5.3.8.2(3)	EP 1202-26 Loss of SG Feed
11. Loss of Flux Indication	Paragraph 5.3.8.2(3)	EP 1202-38 Loss of Flux Indication
12. Mispositioned Control Rod or Rods (and Rod Drop)	Paragraph 5.3.8.2(3)	EP 1202-8 CRD Equipment Failure EP 1202-10 CRD Malfunction Action



SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2F. Procedures for Combating Emergencies  
and Other Significant Events  
(Continued)

13. Inability to Drive Control Rods	Paragraph 5.3.8.2(3)	EP 1202-8 CRD Equipment Failure EP 1202-10 CRD Malfunction Action
14. Conditions Requiring Use of Emergency Boration or Standby Liquid Control System	Paragraph 5.3.8.2(10)	OP 1103-4 Soluble Poison Concentration Control
15. Fuel Clad Failure or High Activity in Reactor Coolant or Offgas	Paragraph 5.3.8.2(6)	EP 1202-11 High Activity in Reactor Coolant EP 1202-12 Excessive Radiation Levels Emergency Procedure
16. Fire in Control Room or Forced Evacuation of Control Room	Paragraph 5.3.8.2(12)	EP 1202-37 Cooldown from Outside Control Room
17. Turbine and Generator Trips	Paragraph 5.3.8.2(2)	EP 1202-1 Load Rejection EP 1202-3 Turbine Trip
18. Expected Transients	Paragraph 5.3.8.2(2)	OP 1105-4 Integrated Control System
19. Malfunction of Automatic Reactivity	Paragraph 5.3.8.2(8)	EP 1202-8 CRD Equipment Failure EP 1202-10 CRD Malfunction Action
20. Malfunction of Pressure Control System	Paragraph 5.3.8.2(3)	EP 1202-29 Pressurizer Systems Failure
21. Emergency Shutdown		EP 1202-4 Reactor Trip
22. Reactor Trip	Paragraph 5.3.8.2(2)	EP 1202-4 Reactor Trip
23. Plant Fires	Paragraph 5.3.8.2(12)	EP 1202-31 Fire

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SAFETY GUIDE 33, APPENDIX A REQUIREMENTANS 3.2 REQUIREMENTTMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2F. Procedures for Combating Emergencies  
and Other Significant Events  
(Continued)

24. Acts of Nature	Paragraph 5.3.8.2(11)	EP 1202-30 EP 1202-32	Earthquake Flood
25. Irradiate Fuel Damage While Refueling		EP 1202-12	Excessive Radiation Levels Emergency Procedure
26. Low and High BWR Water Level			Not Applicable
27. Abnormal Release of Radioactivity	Paragraph 5.3.8.2(7)	EO 1202-12	Excessive Radiation Levels Emergency Procedure
28. None	Paragraph 5.3.8.2(5) (Civil Disturbances)	ADMIN 1005	Security
29. None	Paragraph 5.3.8.3 (Procedure for Implementing Emergency Plan)	HP 1670	Radiation Emergency Procedure (Implementing Radiation Emergency Plan)

G. Procedures for Control of Radioactivity

1. Liquid Radioactive Waste System	Paragraph 5.3.7		
a. Collection, Demineralizing, Filtering, Evaporating and Concentrating and Neutralizing		OP 1104-29A thru 29Y	Various Titles

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G. Procedures for Control of Radioactivity

## 1. Liquid Radioactive Waste System (Continued)

## b. Sampling and Monitoring

OP 1104-43 Nuclear Plant Sampling  
OP 1105-8 Radiation Monitoring System  
Operation Procedure and Setpoints  
HP 1629 Health Physics Procedure for  
Liquid Waste Disposal System  
HP 1821 Sampling of Unmonitored Potential  
Radiation Release Paths

## c. Discharging to Effluents

HP 1621 Releasing Radioactive Liquid Waste

## 2. Solid Waste System

## Paragraph 5.3.7

a. Spent Resins & Filter Sludge  
Handling

OP 1104-29Y Operation and Use of Precoat  
Filters  
OP 1104-52 Loading, Regeneration & Flushing  
Deborating Demineralizers  
OP 1104-53 Loading & Flushing Evaporator  
Condensate Demineralizers  
OP 1104-54 Loading & Flushing Makeup &  
Purification Demineralizers

## b. Bailing Machine Operation

OP 1104-28 Solid Waste Disposal System  
HP 1620 Processing Radioactive Solid Waste

## c. Drum Handling and Storage

HP 1620 Processing Radioactive Solid Waste

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ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

1. Procedures for Control of Radioactivity  
(Continued)

3. PWR Gas Systems

Paragraph 5.3.7

- a. Collection, Storage, & Discharge
- b. Sampling and Monitoring
- c. Air Ejector and Stack Monitoring
- d. Clean Air Monitoring

- OP 1104-27 Gaseous Waste
- HP 1605 Air Sampling for Radioactive  
thru Particulates, Iodine, Gas,  
1608 Tritium
- OP 1105-8 Radiation Monitoring System Operating  
Procedure & Setpoints
- OP 1105-8 Radiation Monitoring System Operating  
Procedure & Setpoints
- OP 1105-8 Radiation Monitoring System Operating  
Procedure & Setpoints
- HP 1605 Air Sampling for Radioactive  
thru Particulates, Iodine, Gas,  
1608 Tritium

4. BWR Air Extraction and Offgas System

Paragraph 5.3.7

Not Applicable

5. Personnel Monitoring and Special  
Work Permit

Paragraph 5.3.7

- a. Restrictions on Activities in  
Radiation Areas and High  
Radiation Areas
- b. Respirator Equipment

- HP 1610 Establishing and Posting Areas
- HP 1613 Radiation Work Permit
- HP 1616 Use of Respiratory Protection  
Devices (Lapel Monitors Included)

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ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

G. Procedures for Control of Radioactivity  
(Continued)

5. Personnel Monitoring and Special  
Work Permit (Continued)

c. Surveys and Monitoring

HP 1602	Radiation Dose Rate Surveys
HP 1603	Neutron Surveys
HP 1604	Alpha Surveys
HP 1609	Surface Contamination Surveys
HP 1612	Monitoring for Personnel Contamination
HP 1628	Bio-assay Program (Whole Body Counting)
HP 1770	Film Badge and TLD Badge Record Keeping
HP 1771	Dosimeter Record Keeping
OP 1105-8	Radiation Monitoring System Operating Procedure & Setpoints

d. Protective Clothing

Radiation Protection Manual

e. Radiation Work Permit Procedure

HP 1613 Radiation Work Permit

6. None

Paragraph 5.3.7  
(Control of  
Radioactive  
Calibration  
Sources)

HP 1633	Handling Am-Be Neutron Source
HP 1634	Handling Co <sup>60</sup> Gamma Source
HP 1635	Handling Model 682 Instrument Calibrator
HP 1636	Handling Victoreen 64-764 Instrument Calibrator
HP 1773	Monthly Source Check

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H. Procedures for Control of Measuring and Test Equipment

1. For Tools, Gauges, Instruments, Controls, and Other Measuring and Testing Devices
2. For Surveillance Test, Inspections and Calibrations
  - a. PWR
    - 1) Containment Leak Rate Test
    - 2) Containment Isolation Tests
    - 3) Containment Local Leak Detection Test
    - 4) Containment Heat and Radioactivity Removal Tests
    - 5) Containment Tendon Tests & Inspections

ANS 3.2 REQUIREMENT

Paragraph 5.3.6

Paragraph 6.4

TMI PROCEDURE IMPLEMENTING OR SATISFYING REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

See Section XII, Control of Measuring and Test Equipment of TMI Operating Quality Assurance Plan and Required Implementing Procedure to be Developed

SP 1303-6.1

SP 1303-4.13 (Monthly Test); SP 1303-5.1, 5.3 & 5.8 (Quarterly Test); SP 1303-11.9 (Refueling Interval Test)

SF 1303-11.18

SP 1303-4.13 & 4.14 (Heat Removal Monthly Test); SP 1303-5.3, 5.8, 5.9 & 5.10 (Heat Removal Quarterly Test); SP 1303-11.9 & 11.15 (Refuel Interval Heat Removal Tests); SP 1303-11.14 R.B. Purge Exhaust; SP 1303-10.1 R.B. Purge System; SP 1303-11.5 Charcoal & HEF for Control Room and R.B. Purge Filters  
SP 1303-8.2

SAFETY GUIDE 33, APPENDIX A REQUIREMENT

II. Procedures for Control of Measuring and  
Test Equipment  
(Continued)

2. For Surveillance Test, Inspections  
and Calibrations (Continued)

a. PWR (Continued)

- 6) Service Water Functional Tests
- 7) Main Steam Stop Valve Tests
- 8) Fire Protection System  
Functional Test
- 9) Boric Acid Tanks--Level  
Instrumentation Calibrations
- 10) Emergency Core Cooling System  
Tests
- 11) Control Rod Operability and  
Scram Time Tests

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

SP 1303-11.7 Emergency Loading Sequence

SP 1303-2.1

Later

SP 1302-5.20 Boric Acid Mix Tank Level  
(Refueling Interval)

SP 1302-5.21 Conc. Boric Acid Mix Tank Level  
(Refueling Interval)

SP 1303-4.11 & 4.12 (Monthly Tests)

SP 1303-5.6, 5.7 & 5.10 (Quarterly Tests)

SP 1303-11.8 & 11.21 (Refueling Interval Test)

SP 1303-3.1 (Bi -Weekly Test)

SP 1303-4.2 (Trip Breaker Monthly Test)

SP 1303-11.1 (Refueling Interval Drop Time Test)

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ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

H. Procedures for Control of Measuring and  
Test Equipment  
(Continued)

2. For Surveillance Test, Inspections  
and Calibrations (Continued)

a. PWR (Continued)

12) Reactor Protection System  
Tests & Calibrations

SP 1301-1 (Shift & Daily Checks)  
SP 1302-2.1 (Monthly Calibration)  
SP 1302-5.1, 5.2, 5.3, 5.4, 5.5, 5.6  
(Refueling Interval Calibration)  
SP 1303-4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8,  
4.9 (Monthly Tests)

13) Permissives--Tests and  
Calibration

SP 1301-1 (Shift & Daily Checks)  
SP 1302-2.1 (Monthly Calibration)  
SP 1302-5.1, 5.2, 5.3, 5.4, 5.5, 5.6  
(Refueling Interval Calibration)  
SP 1303-4.1, 4.3, 4.4, 4.5, 4.6, 4.7, 4.8,  
4.9 (Monthly Tests)  
SP 1303-4.11 & 4.12 (Monthly Tests)  
SP 1303-5.6, 5.7 & 5.10 (Quarterly Tests)  
SP 1303-3.1 (Bi-Weekly Test)

14) Refueling System Circuit Tests

SP 1303-11.4 Refueling System Interlocks

15) Emergency Boration System  
Functional Test (Emergency  
Core Cooling)

SP 1303-4.11 & 4.12 (Monthly Tests)  
SP 1303-5.6, 5.7 & 5.10 (Quarterly Tests)  
SP 1303-11.8 & 11.21 (Refueling Interval Test)

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ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

H. Procedures for Control of Measuring and  
Test Equipment  
(Continued)

2. For Surveillance Test, Inspections  
and Calibrations (Continued)

a. PWR (Continued)

16) DNB Checks & Incore-Excore  
Flux Monitor Correlations

17) Emergency Power Tests

18) Auxiliary (Emergency)  
Feedwater Tests

19) NSS Hydro Test

OP 1103-15 Reactor Balance Calculations  
OP 1103-16 Heat Balance Calculations  
SP 1302-2.1 Power Range Channel Calibration  
SP 1301-5.3 Incore Neutron Detectors  
(Monthly Check)

SP 1301-4.6 & 5.8 Station Battery (Weekly  
and Monthly Check)  
SP 1303-4.16 Monthly Emergency Power System Test  
SP 1303-5.2 Quarterly Sequence Test  
(Electrical Load)  
SP 1303-11.10 Diesel Generators (Refueling  
Interval Test)  
SP 1303-11.11 Station Batteries (Load Test,  
Refueling Interval)  
SP 1303-11.17 Emergency Load Sequence  
(Refueling Interval Test)

SP 1303-5.4 Quarterly Tests

SP 1303-8.1 Reactor Coolant System Test

SAFETY GUIDE 33, APPENDIX A REQUIREMENT

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
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H. Procedures for Control of Measuring and  
Test Equipment

(Continued)

2. For Surveillance Test, Inspections  
and Calibrations (Continued)

a. PWR (Continued)

- 20) Infrequent Inspection of  
Reactor Coolant
- 21) Inspection of Pipe Hanger
- 22) Control Rod Drive System  
Functional Test
- 23) Heat Balance--Flux Motor  
Calibrations
- 24) NDT Recalculation
- 25) Pressurizer and Main Steam  
Safety Valve Tests
- 26) Leak Detection System Tests

SP 130C-1 Inservice Inspection Procedure

SP 1300-1 Inservice Inspection Procedure

SP 1303-3.1 (Bi-Weekly Test)

SP 1303-4.2 (Trip Breaker Monthly Test)

SP 1303-11.1 (Refueling Interval Drop Time Test)

Not Applicable (See H.2.a.16)

Not required for first two years of power  
operation (See Technical Specification 3.1.2).  
Need for procedure to be evaluated based on  
incore irradiation capsule test results.

SP 1303-11.2 & 11.3

SP 1302-5.25 R.B. Emergency Sump Level  
Calibration

SP 1302-5.16 Pressurizer Level Channel  
Calibration

SP 1302-5.17 Makeup Tank Level Channels

SP 1302-5.12 Pressurizer Temp. Channels



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TMI PROCEDURE IMPLEMENTING OR SATISFYING  
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II. Procedures for Control of Measuring and  
Test Equipment  
(Continued)

2. For Surveillance Test, Inspections  
and Calibrations (Continued)

a. PWR (Continued)

27) Axial and Radial Flux Pattern  
Determination

SP 1301-5.3 Incore Neutron Detectors

28) Area Radiation Monitoring  
Calibration

SP 1301-4.1 & 5.4 (Weekly & Monthly Check)  
SP 1302-3.1 (Quarterly Calibration)  
SP 1303-5.23 (Refueling Interval  
Calibration)

29) Process Radiation Monitoring  
Calibration

SP 1301-4.1 & 5.4 (Weekly & Monthly Check)  
SP 1302-3.1 (Quarterly Calibration)  
SP 1303-5.23 (Refueling Interval  
Calibration)

30) Environmental Monitoring  
Calibration

SP 1302-5.24

b. BWR

Not Applicable

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SAFETY GUIDE 33, APPENDIX A REQUIREMENT

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

I. Procedures for Performing Maintenance

- |  |                         |                      |   |
|--|-------------------------|----------------------|---|
| 1. Maintenance should be preplanned and performed in accordance with written procedures. | Paragraph 5.1.6 & 5.3.5 | ADMIN 1016           | Implementation and Control of Station Maintenance                   |
|  |                         | ADMIN 1002           | Tagging (concerning granting permission to perform maintenance)     |
| 2. Preventive Maintenance Schedule   | Paragraph 5.1.6.2       | ADMIN 1016           | Implementation and Control of Station Maintenance                   |
| 3. Potential Replacement/Repair Procedures   | Paragraph 5.3.5         |                      |   |
| a. PWR Steam Tube Repair   |                         | MP 1401-4.1          | OTSG Tube Plugging  |
| b. Replacement and Repair of Control Rod Drives  |                         | MP 1401-5.2          | CRD Removal and Replacement   |
| c. Replacement of R.C. Pump Seals  |                         | MP 1401-1.1          | Seal Inspection and Repairs   |
| d. Replacement of Important Strainers & Filters  |                         | MP 1402-1.1          | Make-up Pump Filter Replacement                                     |
| e. Repair and Replacement of Safety Valves   |                         | MP 1401-2.1 & 1404-1 | Pressurizer Relief, Main Steam Safety Valve Removal and Replacement |
| f. Repair of Incore Flux Monitoring System   |                         | MP 1403-2            | Incore Detector Removal and Replacement                             |
| g. Replacement of Neutron Detectors  |                         | MP 1403-1            | Nuclear Detector Removal and Replacement                            |

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SAFETY GUIDE 33, APPENDIX A REQUIREMENT

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

I. Procedures for Performing Maintenance  
(Continued)

4. Preventive Maintenance

Paragraph 5.3.5

a. Exercise of Equipment

Covered in Applicable Operating Procedures

b. Draining and Refilling  
Heat Exchangers

Covered in Applicable Operating Procedures

c. Draining and Refilling  
R.C. Loop

OP 1103-2 Filling and Venting Reactor  
Coolant System  
OP 1103-5 Pressurizer Operation  
OP 1103-6 Reactor Coolant Pump Operation  
OP 1103-11 Draining & N<sub>2</sub> Blanketing R.C.  
System

d. Draining and Refilling  
the Reactor

OP 1103-2 Filling and Venting Reactor  
Coolant System  
OP 1103-5 Pressurizer Operation  
OP 1103-6 Reactor Coolant Pump Operation  
OP 1103-11 Draining & N<sub>2</sub> Blanketing R.C.  
System

e. Draining and Refilling  
Steam Generators

OP 1106-2 Condensate System  
OP 1106-3 Feed System  
OP 1106-6 Emergency Feed  
OP 1106-13 Powdex  
OP 1106-16 OTSG Secondary Fill, Drain & Layup

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SAFETY GUIDE 33, APPENDIX A REQUIREMENT

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

I. Procedures for Performing Maintenance  
(Continued)

4. Preventive Maintenance (Continued)

f. Removal of Reactor Head

IFI 101 Administrative Structure  
thru 209\* & Instructions  
IFP 201 Receipt Inspection, Fit-up of New  
thru 605\* Fuel, & Storage of Core  
Preparation for Core Assembly  
Reactor Assembly  
Equipment Operation Instructions  
Contingency Procedures

g. Disconnection and Reconnection  
of Wiring Penetrating Reactor  
Vessel Head

Not Applicable

h. Demineralizer Resin Regeneration  
or Replacement

OP 1104-29Y Operation and Use of Precoat  
Filters  
OP 1104-52 Loading, Regeneration & Flushing  
Deborating Demineralizers  
OP 1104-53 Loading & Flushing Evaporator  
Condensate Demineralizers  
OP 1104-54 Loading & Flushing Makeup &  
Purification Demineralizers

5. General Procedures

Paragraph 5.1.6 &  
5.3.5

ADMIN 1016 Implementation and Control of  
Station Maintenance  
ADMIN 1002 Tagging (concerning granting  
permission to perform maintenance

\*Initial Fueling Instructions (IFI) and Initial Fueling Procedures (IFP) to be used as the basis for  
preparing necessary refueling procedures.

SAFETY GUIDE 33, APPENDIX A REQUIREMENT

J. Chemical and Radiochemical Control Procedures

K. Requirements of ANS 3.2 Not Covered by Appendix A to Safety Guide 33

ANS 3.2 REQUIREMENT

Paragraph 5.3.7

Paragraph 3.1,  
"General, Owner  
Organization", and  
Paragraph 3.2,  
"Assignment of  
Authority and  
Responsibility"

Paragraph 3.3.2,  
"Requirements for  
Operating Organization"

Paragraph 4.1,  
"General, Review and  
Audit";  
Paragraph 4.2.2,  
"Personnel for  
Independent Review  
and Audit";  
Paragraph 4.3,  
"Subjects Requiring  
Independent Review";  
Paragraph 4.4,  
"Independent Audit"; and,  
Paragraph 4.5,  
"Onsite Review"

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

TMI Chemistry Manual  
Health Physics Procedures HP 1600 thru 1821  
Applicable Operating Procedures

Section I of TMI Operational Quality  
Assurance Plan  
ADMIN 1009 Station Organization and Chain  
of Command

ADMIN 1009 Station Organization and Chain  
of Command

Section 6.1 of TMI Unit 1 Technical  
Specifications (Specifies minimum shift staffing,  
designates positions to be filled by AEC licensed  
operators, and designates positions filled by  
personnel meeting the requirements of ANSI N18.1-  
1971)

Section 6.1 of TMI Unit 1 Technical  
Specifications (Amendment under preparation)

POOR ORIGINAL

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SAFETY GUIDE 33, APPENDIX A REQUIREMENT

- K. Requirements of ANS 3.2 Not Covered by  
Appendix A to Safety Guide 33  
(Continued)

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

Paragraph 4.2.1,  
"Written Charter"

General Office Review Board Charter and  
Administrative Procedure

Quality Assurance Procedures to be prepared  
to implement TMI Operating Quality Assurance  
Plan

Paragraph 5.1.4,  
"Special Orders"

Standing Orders Book

Paragraph 5.1.6.1,  
"Quality Assurance  
for Maintenance", and  
Paragraph 5.1.6.4,  
"Modifications"

Sections III, IV, V, VII, X and XI of TMI  
Operating Quality Assurance Plan and Quality  
Assurance Procedure to be prepared to  
implement this plan.

ADMIN 1016 Implementation and Control of  
Station Maintenance (concerning  
evaluation and reporting of  
equipment failures)

Paragraph 5.3.9,  
"Materials Control  
Procedures"

Sections III, VI, V, VII, VIII, IX, X, XIII,  
XIV, XV, XVI and XVIII of TMI Operating Quality  
Assurance Plan and Quality Assurance Procedures  
to be prepared to implement this plan.

Paragraph 5.4,  
"Periodic Review  
of Operating and  
Emergency  
Procedures"

ADMIN 1001 TMI Procedure Control

SAFETY GUIDE 33, APPENDIX A REQUIREMENT

- K. Requirements of ANS 3.2 Not Covered by  
Appendix A to Safety Guide 33  
(Continued)

ANS 3.2 REQUIREMENT

TMI PROCEDURE IMPLEMENTING OR SATISFYING  
REQUIREMENT OF SAFETY GUIDE 33 AND ANS 3.2

Paragraph 6.2,  
"Test Procedures"

For Test and Inspections Prior to and During  
Initial Plant Operations

Quality Assurance Plan for Startup and  
Test - Three Mile Island-Units 1 and 2

Three Mile Island Test Manual

For Test and Inspection After Startup or  
Modification

Section XI of TMI Operating Quality  
Assurance Plan and Quality Assurance  
Procedures to be prepared to implement  
this plan.

Paragraph 6.3,  
"Tests and Inspections  
Prior to and during  
Initial Plant  
Operations"

Quality Assurance Plan for Startup and Test -  
Three Mile Island-Units 1 and 2

Three Mile Island Test Manual

Paragraph 6.5,  
"Test and Inspections  
After Plant  
Modifications or  
Procedure Changes"

Section XI of TMI Operating Quality Assurance  
Plan and Quality Assurance Procedures to be  
prepared to implement this plan.

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