

TABLE 4.1-3  
MINIMUM SAMPLING FREQUENCY

<u>Item</u>	<u>Check</u>	<u>Frequency</u>
1. Reactor Coolant	a. Radio-Chemical Analysis (1) b. $\bar{E}$ determination (2) c. 15 Min. Gross Degassed Beta-Gamma Activity (1) d. Tritium Radioactivity e. Chemistry (Cl, F and O <sub>2</sub> ) f. Boron Concentration	Monthly Semi-annually 5 times/week when Tavg is greater than 200°F Monthly 5 times/week when Tavg is greater than 200°F 2 times/week
2. Borated Water Storage Tank Water Sample	Boron Concentration	Weekly and after each makeup when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
3. Core Flooding Tank Water Sample	Boron Concentration	Monthly and after each makeup when RCS pressure is greater than 700 psig
4. Spent Fuel Pool Water Sample	Boron Concentration	Monthly and after each makeup
5. Secondary Coolant	a. 15 Min. Gross Degassed Beta-Gamma Activity  b. Iodine Analysis (3)	Weekly when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
6. Boric Acid Mix Tank or Reclaimed Boric Acid Tank	Boron Concentration	Twice weekly (4)
10. Sodium Hydroxide Tank	Concentration	Quarterly and after each makeup
11. Sodium Thiosulphate Tank	Concentration	Quarterly and after each makeup
12. Condenser Partition Factor	I <sup>131</sup> Partition Factor	Once if primary/secondary leakage develops, i.e.: Gross Beta-Gamma on secondary side of OTSG is greater than $2 \times 10^{-8}$ microcuries per cc and evidence of fission products is present

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- (1) When radioactivity level is greater than 10 percent of the limits of Specification 3.1.4, the sampling frequency shall be increased to a minimum of 5 times per week.
- (2)  $\bar{E}$  determination will be started when the 15 minute gross degassed beta-gamma activity analysis indicates greater than 10  $\mu\text{Ci/ml}$  and will be redetermined each 10  $\mu\text{Ci/ml}$  increase in the 15 minute gross degassed beta-gamma activity analysis. A radio chemical analysis for this purpose shall consist of a quantitative measurement of 95 percent of radionuclides in reactor coolant with half lives of  $\geq 30$  minutes.
- (3) When the 15 minute gross degassed activity increases by a factor of two above background, an iodine analysis will be made and performed thereafter when the 15 minute gross degassed beta-gamma activity increases by 10 percent.
- (4) The surveillance of either the Boric Acid Mix Tank or the Reclaimed Boric Acid Tank is not necessary when that respective tank is empty.

#### 4.4.2 Structural Integrity

##### Specification

#### 4.4.2.1 Inservice Tendon Surveillance Requirements

The surveillance program for structural integrity and corrosion protection conforms to the recommendations of the U. S. Atomic Energy Commission Regulatory Guide 1.35, proposed Revision 3, "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures." The detailed surveillance program for the prestressing system tendons shall be based on periodic inspection and mechanical tests to be performed on selected tendons, as specified hereafter.

##### 4.4.2.1.1 Containment Tendons

Tendon surveillance was completed for one, three and five years following initial structural integrity using a Tech. Spec. based on Regulatory Guide 1.35 Rev. 1. The containment tendon structural integrity shall be demonstrated at five year intervals thereafter by:

- a. Determining that for a representative sample\* of at least 23 tendons (6 dome, 7 vertical, and 10 hoop) each tendon has a lift off force equalling, or exceeding, its lower limit predicted for the time of the test as defined in NRC Regulatory Guide 1.35, "Inservice Inspection for Ungrouted Tendons in Prestressed Concrete Containments", Proposed Revision 3, April, 1979.

If the lift off force of a selected tendon in a group lies between the prescribed lower limit and 90% of that limit, one tendon on each side of this tendon shall be checked for their lift off forces. If the lift off forces of the adjacent tendons are equal to, or greater than, their prescribed lower limits at the time of the test, the single deficiency shall be considered unique and acceptable. If the lift off force of either adjacent tendons lies below the prescribed lower limit for that tendon, the condition is reportable per T.S. 6.9.2.A3.

If the lift off force of any one tendon lies below 90% of its prescribed lower limit, the tendon shall be considered a defective tendon. It shall be completely detensioned and a determination made as to the cause of the occurrence. The condition is reportable per T.S. 6.9.2.A3.

If the inspections performed at one, three, and five years indicate no abnormal degradation of the post-tensioning system, the number of tendons checked for lift off force during subsequent tests may be reduced to a representative sample of at least 11 tendons (3 dome, 3 vertical, and 5 hoop).

\*For each inspection, the tendons shall be selected on a random but representative basis so that the sample group will change somewhat for each inspection; however, to develop a history of tendon performance and to correlate the observed data one tendon from each group (dome, vertical, and hoop) may be kept unchanged after the initial selection.

#### 4.8 MAIN STEAM ISOLATION VALVES

##### Applicability

Applies to the periodic testing of the main steam isolation valves.

##### Objective

To specify the minimum frequency and type of tests to be applied to the main steam isolation valves.

##### Specification

- 4.8.1 A check of valve stem movement, up to 10 percent, shall be performed on a monthly basis when the unit is operational and under normal flow and load conditions.
- 4.8.2 The main steam isolation valves shall be tested at intervals not to exceed the normal refueling outage. Closure time of < 120 seconds shall be verified. This test will be performed under no flow and no load conditions.

##### Bases

Since a portion of the main steam lines and the steam lines to the main feed pump turbines are located in the turbine hall which is not protected against hypothetical tornado, missile, or aircraft incident; main steam isolation stop check valves are provided and located in the hardened portion of the intermediate building. These stop check valves are remotely closed by the operator from the control room, close in less than two minutes, and are tight closing <sup>(1)</sup> for long term containment isolation. Their ability to close upon signal should be verified at intervals not to exceed each scheduled refueling shutdown, and valve stem freedom should be checked on a monthly basis.

##### References

- (1) FSAR, Section 10.2.1.3

INTENTIONALLY

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Metropolitan Edison Company  
Post Office Box 480  
Middletown, Pennsylvania 17057

Writer's Direct Dial Number

April 24, 1981  
L1L 081

Office of Nuclear Reactor Regulation  
Attn: R. W. Reid, Chief  
Operating Reactors Branch No. 4  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

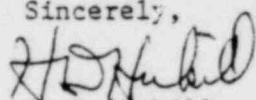
Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 99

Enclosed are three signed originals (sixty conformed copies sent separately) of Technical Specification Change Request No. 99 requesting amendment to Appendix A of Operating License No. DPR-50.

Also enclosed is one signed copy of Certificate of Service for proposed Technical Specification Change Request No. 99 to the chief executives of the township and county in which the facility is located.

Sincerely,

  
H. D. Hukill  
Director, TMI-1

RCA:WSS:lma

- Enclosures:
- 1) Technical Specification Change Request No. 99
  - 2) Certificate of Service for Technical Specification Change Request No. 99
  - 3) Check No.-Check will be forwarded under separate cover



METROPOLITAN EDISON COMPANY  
JERSEY CENTRAL POWER & LIGHT COMPANY  
AND  
PENNSYLVANIA ELECTRIC COMPANY  
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

---

Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 99

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This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

METROPOLITAN EDISON COMPANY

By H. D. Hukill  
Director, TMI-1  
H. D. Hukill

Sworn and subscribed to me this 24<sup>th</sup> day of April, 1981.

Pamela Joy Lubrecht  
Notary Public

PAMELA JOY LUBRECHT, Notary Public  
Middletown, Dauphin County, Pa.  
My Commission Expires August 23, 1983

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289  
LICENSE NO. DPR-50

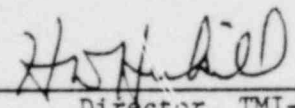
METROPOLITAN EDISON COMPANY

This is to certify that a copy of Technical Specification Change Request No. 99 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with the U. S. Nuclear Regulatory Commission and been served on the chief executives of Londonderry Township, Dauphin County, Pennsylvania and Dauphin County, Pennsylvania by deposit in the United States mail, addressed as follows:

Mr. Donald Hoover, Chairman  
Board of Supervisors of  
Londonderry Township  
R.D. #1, Geyers Church Road  
Middletown, PA 17057

Mr. John E. Minnich, Chairman  
Board of County Commissioners  
of Dauphin County  
Dauphin County Courthouse  
Harrisburg, PA 17120

METROPOLITAN EDISON COMPANY

By   
Director, TMI-1  
H. D. Rakill

Dated: April 24, 1981



Three Mile Island Nuclear Station, Unit 1  
Operating License No. DPR-50  
Docket No. 50-289

Technical Specification Change Request No. 99

The Licensee requests that the attached pages iii, 4-9, 4-10, 4-35, 4-51, and 4-54 replace the respective existing Tech. Spec. pages.

Reason for Change Request

These administrative changes are requested for the following reasons:

- 99.1 - Specification 4.11 "Site Environmental Radioactivity Survey" refers the reader to Section 6.4 of Appendix B. There is no such section in Appendix B. Therefore, this section should be deleted.
- 99.2 Specification 4.8.1 states that a closure time of approximately 112 sec. shall be verified. The TMI-1 FSAR Section 10.2.1.3 states < 120 sec. is the limit. The erroneous time of 112 sec. was obtained from a test procedure, which was later corrected to 120 sec. Therefore, the closure time in the Technical Specification should be revised to < 120 sec.
- 99.3 - Table 4.1-3 item 6 requires a twice per week boron concentration check of the Boric Acid Mix Tank or the Reclaimed Boric Acid Tank. A footnote should be added to this specification to allow relief from this sampling when the tanks are empty.
- 99.4 - Specification 4.4.2.1.1 "Containment Tendons" states that only the tendon surveillance done at one and three years following initial structural integrity used Regulatory Guide 1.35 Rev. 1. This statement was correct when the Change Request was submitted for NRC review. However, the five-year surveillance was performed prior to receipt of Amendment 59 and was therefore also done per Regulatory Guide 1.35 Rev. 1. Therefore, the above referenced section has been rewritten to reflect what actually occurred.

Safety Analysis Justifying Change

Because these changes are administrative in nature, they have no effect on nuclear safety. Therefore, no safety analysis is necessary.

License Amendment Classification (10CFR 170.22)

These changes are administrative in nature. Therefore, enclosed please find the proper remittance of \$1200.00.

# TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
4.4.2	STRUCTURAL INTEGRITY 4-35
4.4.3	HYDROGEN PURGE SYSTEM 4-37
4.5	<u>EMERGENCY LOADING SEQUENCE AND POWER TRANSFER, EMERGENCY</u>
	<u>CORE COOLING SYSTEM AND REACTOR BUILDING COOLING</u>
	<u>SYSTEM PERIODIC TESTING</u> 4-39
4.5.1	EMERGENCY LOADING SEQUENCE 4-39
4.5.2	EMERGENCY CORE COOLING SYSTEM 4-41
4.5.3	REACTOR BUILDING COOLING AND ISOLATION SYSTEM 4-43
4.5.4	DECAY HEAT REMOVAL SYSTEM LEAKAGE 4-45
4.6	<u>EMERGENCY POWER SYSTEM PERIODIC TESTS</u> 4-46
4.7	<u>REACTOR CONTROL ROD SYSTEM TESTS</u> 4-48
4.7.1	CONTROL ROD DRIVE SYSTEM FUNCTIONAL TESTS 4-48
4.7.2	CONTROL ROD PROGRAM VERIFICATION 4-50
4.8	<u>MAIN STEAM ISOLATION VALVES</u> 4-51
4.9	<u>EMERGENCY FEEDWATER PUMPS PERIODIC TESTING</u> 4-52
4.9.1	TEST 4-52
4.9.2	ACCEPTANCE CRITERIA 4-52
4.10	<u>REACTIVITY ANOMALIES</u> 4-53
4.11	<u>INTENTIONALLY BLANK</u> 4-54
4.12	<u>AIR TREATMENT SYSTEMS</u> 4-55
4.12.1	EMERGENCY CONTROL ROOM AIR TREATMENT SYSTEM 4-55
4.12.2	REACTOR BUILDING PURGE AIR TREATMENT SYSTEM 4-55b
4.12.3	AUXILIARY AND FUEL HANDLING EXHAUST AIR TREATMENT SYSTEM 4-55d
4.13	<u>RADIOACTIVE MATERIALS SOURCES SURVEILLANCE</u> 4-56
4.14	<u>REACTOR BUILDING PURGE EXHAUST SYSTEM</u> 4-57
4.15	<u>MAIN STEAM SYSTEM INSERVICE INSPECTION</u> 4-58
4.16	<u>REACTOR INTERNALS VENT VALVES SURVEILLANCE</u> 4-59
4.17	<u>SHOCK SUPPRESSORS (SNUBBERS)</u> 4-60
4.18	<u>FIRE PROTECTION SYSTEMS</u> 4-72
4.18.1	FIRE PROTECTION INSTRUMENTS 4-72
4.18.2	FIRE SUPPRESSION WATER SYSTEM 4-73
4.18.3	DELUGE/SPRINKLER SYSTEM 4-74
4.18.4	CO <sub>2</sub> SYSTEM 4-74
4.18.5	HALON SYSTEMS 4-75
4.18.6	HOSE STATIONS 4-76
4.19	<u>OTSG TUBE INSERVICE INSPECTION</u> 4-77
4.19.1	STEAM GENERATOR SAMPLE SELECTION AND INSPECTION METHODS 4-77
4.19.2	STEAM GENERATOR TUBE SAMPLE SELECTION AND INSPECTION 4-77
4.19.3	INSPECTION FREQUENCIES 4-79
4.19.4	ACCEPTANCE CRITERIA 4-80
4.19.5	REPORTS 4-81
4.20	<u>REACTOR BUILDING AIR TREATMENT</u> 4-86
5	<u>DESIGN FEATURES</u> 5-1
5.1	<u>SITE</u> 5-1
5.2	<u>CONTAINMENT</u> 5-2
5.2.1	REACTOR BUILDING 5-2
5.2.2	REACTOR BUILDING ISOLATION SYSTEM 5-3
5.3	<u>REACTOR</u> 5-4
5.3.1	REACTOR CORE 5-4
5.3.2	REACTOR COOLANT SYSTEM 5-4
5.4	<u>NEW AND SPENT FUEL STORAGE FACILITIES</u> 5-6
5.4.1	NEW FUEL STORAGE 5-6
5.4.2	SPENT FUEL STORAGE 5-6
5.5	<u>AIR INTAKE TUNNEL FIRE PROTECTION SYSTEMS</u> 5-8

TABLE 4.1-3  
MINIMUM SAMPLING FREQUENCY

<u>Item</u>	<u>Check</u>	<u>Frequency</u>
1. Reactor Coolant	a. Radio-Chemical Analysis (1) b. $\bar{E}$ determination (2) c. 15 Min. Gross Degassed Beta-Gamma Activity (1) d. Tritium Radioactivity e. Chemistry (Cl, F and O <sub>2</sub> ) f. Boron Concentration	Monthly Semi-annually 5 times/week when Tavg is greater than 200°F Monthly 5 times/week when Tavg is greater than 200°F 2 times/week
2. Borated Water Storage Tank Water Sample	Boron Concentration	Weekly and after each makeup when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
3. Core Flooding Tank Water Sample	Boron Concentration	Monthly and after each makeup when RCS pressure is greater than 700 psig
4. Spent Fuel Pool Water Sample	Boron Concentration	Monthly and after each makeup
5. Secondary Coolant	a. 15 Min. Gross Degassed Beta-Gamma Activity  b. Iodine Analysis (3)	Weekly when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
6. Boric Acid Mix Tank or Reclaimed Boric Acid Tank	Boron Concentration	Twice weekly (4)
10. Sodium Hydroxide Tank	Concentration	Quarterly and after each makeup
11. Sodium Thiosulphate Tank	Concentration	Quarterly and after each makeup
12. Condenser Partition Factor	I <sup>131</sup> Partition Factor	Once if primary/secondary leakage develops, i.e.: Gross Beta-Gamma on secondary side of OTSG is greater than $2 \times 10^{-8}$ microcuries per cc and evidence of fission products is present

- (1) When radioactivity level is greater than 10 percent of the limits of Specification 3.1.4, the sampling frequency shall be increased to a minimum of 5 times per week.
- (2)  $\bar{E}$  determination will be started when the 15 minute gross degassed beta-gamma activity analysis indicates greater than 10  $\mu\text{Ci/ml}$  and will be redetermined each 10  $\mu\text{Ci/ml}$  increase in the 15 minute gross degassed beta-gamma activity analysis. A radio chemical analysis for this purpose shall consist of a quantitative measurement of 95 percent of radionuclides in reactor coolant with half lives of  $\geq 30$  minutes.
- (3) When the 15 minute gross degassed activity increases by a factor of two above background, an iodine analysis will be made and performed thereafter when the 15 minute gross degassed beta-gamma activity increases by 10 percent.
- (4) The surveillance of either the Boric Acid Mix Tank or the Reclaimed Boric Acid Tank is not necessary when that respective tank is empty.

#### 4.4.2 Structural Integrity

##### Specification

#### 4.4.2.1 Inservice Tendon Surveillance Requirements

The surveillance program for structural integrity and corrosion protection conforms to the recommendations of the U. S. Atomic Energy Commission Regulatory Guide 1.35, proposed Revision 3, "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures." The detailed surveillance program for the prestressing system tendons shall be based on periodic inspection and mechanical tests to be performed on selected tendons, as specified hereafter.

##### 4.4.2.1.1 Containment Tendons

Tendon surveillance was completed for one, three and five years following initial structural integrity using a Tech. Spec. based on Regulatory Guide 1.35 Rev. 1. The containment tendon structural integrity shall be demonstrated at five year intervals thereafter by:

- a. Determining that for a representative sample\* of at least 23 tendons (6 dome, 7 vertical, and 10 hoop) each tendon has a lift off force equalling, or exceeding, its lower limit predicted for the time of the test as defined in NRC Regulatory Guide 1.35, "Inservice Inspection for Ungrouted Tendons in Prestressed Concrete Containments", Proposed Revision 3, April, 1979.

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If the inspections performed at one, three, and five years indicate no abnormal degradation of the post-tensioning system, the number of tendons checked for lift off force during subsequent tests may be reduced to a representative sample of at least 11 tendons (3 dome, 3 vertical, and 5 hoop).

\*For each inspection, the tendons shall be selected on a random but representative basis so that the sample group will change somewhat for each inspection; however, to develop a history of tendon performance and to correlate the observed data one tendon from each group (dome, vertical, and hoop) may be kept unchanged after the initial selection.

#### 4.8 MAIN STEAM ISOLATION VALVES

##### Applicability

Applies to the periodic testing of the main steam isolation valves.

##### Objective

To specify the minimum frequency and type of tests to be applied to the main steam isolation valves.

##### Specification

- 4.8.1 A check of valve stem movement, up to 10 percent, shall be performed on a monthly basis when the unit is operational and under normal flow and load conditions.
- 4.8.2 The main steam isolation valves shall be tested at intervals not to exceed the normal refueling outage. Closure time of < 120 seconds shall be verified. This test will be performed under no flow and no load conditions.

##### Bases

Since a portion of the main steam lines and the steam lines to the main feed pump turbines are located in the turbine hall which is not protected against hypothetical tornado, missile, or aircraft incident; main steam isolation stop check valves are provided and located in the hardened portion of the intermediate building. These stop check valves are remotely closed by the operator from the control room, close in less than two minutes, and are tight closing <sup>(1)</sup> for long term containment isolation. Their ability to close upon signal should be verified at intervals not to exceed each scheduled refueling shutdown, and valve stem freedom should be checked on a monthly basis.

##### References

- (1) FSAR, Section 10.2.1.3



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Metropolitan Edison Company  
Post Office Box 480  
Middletown, Pennsylvania 17057

Writer's Direct Dial Number

April 24, 1981  
LIL 081

Office of Nuclear Reactor Regulation  
Attn: R. W. Reid, Chief  
Operating Reactors Branch No. 4  
U. S. Nuclear Regulatory Commission  
Washington, D.C. 20555

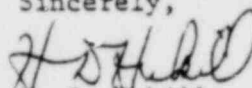
Dear Sir:

Three Mile Island Nuclear Station, Unit 1 (TMI-1)  
Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 99

Enclosed are three signed originals (sixty conformed copies sent separately) of Technical Specification Change Request No.99 requesting amendment to Appendix A of Operating License No. DPR-50.

Also enclosed is one signed copy of Certificate of Service for proposed Technical Specification Change Request No.99 to the chief executives of the township and county in which the facility is located.

Sincerely,

  
H. D. Hukill  
Director, TMI-1

RCA:WSS:lma

- Enclosures:
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METROPOLITAN EDISON COMPANY  
JERSEY CENTRAL POWER & LIGHT COMPANY  
AND  
PENNSYLVANIA ELECTRIC COMPANY  
THREE MILE ISLAND NUCLEAR STATION, UNIT 1

---

Operating License No. DPR-50  
Docket No. 50-289  
Technical Specification Change Request No. 99

---

This Technical Specification Change Request is submitted in support of Licensee's request to change Appendix A to Operating License No. DPR-50 for Three Mile Island Nuclear Station, Unit 1. As a part of this request, proposed replacement pages for Appendix A are also included.

METROPOLITAN EDISON COMPANY

By H. D. Hukill  
Director, TMI-1  
H. D. Hukill

Sworn and subscribed to me this 24<sup>th</sup> day of April, 1981.

Pamela Joy Lubrecht  
Notary Public

PAMELA JOY LUBRECHT, Notary Public  
Middletown, Dauphin County, Pa.  
My Commission Expires August 23, 1983

UNITED STATES OF AMERICA  
NUCLEAR REGULATORY COMMISSION

IN THE MATTER OF

DOCKET NO. 50-289  
LICENSE NO. DPR-50

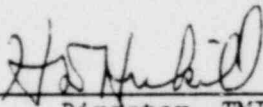
METROPOLITAN EDISON COMPANY

This is to certify that a copy of Technical Specification Change Request No. 99 to Appendix A of the Operating License for Three Mile Island Nuclear Station Unit 1, has, on the date given below, been filed with the U. S. Nuclear Regulatory Commission and been served on the chief executives of Londonderry Township, Dauphin County, Pennsylvania and Dauphin County, Pennsylvania by deposit in the United States mail, addressed as follows:

Mr. Donald Hoover, Chairman  
Board of Supervisors of  
Londonderry Township  
R.D. #1, Geyers Church Road  
Middletown, PA 17057

Mr. John E. Minnich, Chairman  
Board of County Commissioners  
of Dauphin County  
Dauphin County Courthouse  
Harrisburg, PA 17120

METROPOLITAN EDISON COMPANY

By   
Director, TMI-1  
H. D. Hukill

Dated: April 24, 1981

Three Mile Island Nuclear Station, Unit 1  
Operating License No. DPR-50  
Docket No. 50-289

Technical Specification Change Request No. 99

The Licensee requests that the attached pages iii, 4-9, 4-10, 4-35, 4-51, and 4-54 replace the respective existing Tech. Spec. pages.

Reason for Change Request

These administrative changes are requested for the following reasons:

- 99.1 - Specification 4.11 "Site Environmental Radioactivity Survey" refers the reader to Section 6.4 of Appendix B. There is no such section in Appendix B. Therefore, this section should be deleted.
- 99.2 Specification 4.8.1 states that a closure time of approximately 112 sec. shall be verified. The TMI-1 FSAR Section 10.2.1.3 states < 120 sec. is the limit. The erroneous time of 112 sec. was obtained from a test procedure, which was later corrected to 120 sec. Therefore, the closure time in the Technical Specification should be revised to < 120 sec.
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Safety Analysis Justifying Change

Because these changes are administrative in nature, they have no effect on nuclear safety. Therefore, no safety analysis is necessary.

License Amendment Classification (10CFR 170.22)

These changes are administrative in nature. Therefore, enclosed please find the proper remittance of \$1200.00.

# TABLE OF CONTENTS

<u>Section</u>		<u>Page</u>
4.4.2	STRUCTURAL INTEGRITY	4-35
4.4.3	HYDROGEN PURGE SYSTEM	4-37
4.5	<u>EMERGENCY LOADING SEQUENCE AND POWER TRANSFER, EMERGENCY</u>	
	<u>CORE COOLING SYSTEM AND REACTOR BUILDING COOLING</u>	
	<u>SYSTEM PERIODIC TESTING</u>	4-39
4.5.1	EMERGENCY LOADING SEQUENCE	4-39
4.5.2	EMERGENCY CORE COOLING SYSTEM	4-41
4.5.3	REACTOR BUILDING COOLING AND ISOLATION SYSTEM	4-43
4.5.4	DECAY HEAT REMOVAL SYSTEM LEAKAGE	4-45
4.6	<u>EMERGENCY POWER SYSTEM PERIODIC TESTS</u>	4-46
4.7	<u>REACTOR CONTROL ROD SYSTEM TESTS</u>	4-48
4.7.1	CONTROL ROD DRIVE SYSTEM FUNCTIONAL TESTS	4-48
4.7.2	CONTROL ROD PROGRAM VERIFICATION	4-50
4.8	<u>MAIN STEAM ISOLATION VALVES</u>	4-51
4.9	<u>EMERGENCY FEEDWATER PUMPS PERIODIC TESTING</u>	4-52
4.9.1	TEST	4-52
4.9.2	ACCEPTANCE CRITERIA	4-52
4.10	<u>REACTIVITY ANOMALIES</u>	4-53
4.11	<u>INTENTIONALLY BLANK</u>	4-54
4.12	<u>AIR TREATMENT SYSTEMS</u>	4-55
4.12.1	EMERGENCY CONTROL ROOM AIR TREATMENT SYSTEM	4-55
4.12.2	REACTOR BUILDING PURGE AIR TREATMENT SYSTEM	4-55b
4.12.3	AUXILIARY AND FUEL HANDLING EXHAUST AIR TREATMENT SYSTEM	4-55d
4.13	<u>RADIOACTIVE MATERIALS SOURCES SURVEILLANCE</u>	4-56
4.14	<u>REACTOR BUILDING PURGE EXHAUST SYSTEM</u>	4-57
4.15	<u>MAIN STEAM SYSTEM INSERVICE INSPECTION</u>	4-58
4.16	<u>REACTOR INTERNALS VENT VALVES SURVEILLANCE</u>	4-59
4.17	<u>SHOCK SUPPRESSORS (SNUBBERS)</u>	4-60
4.18	<u>FIRE PROTECTION SYSTEMS</u>	4-72
4.18.1	FIRE PROTECTION INSTRUMENTS	4-72
4.18.2	FIRE SUPPRESSION WATER SYSTEM	4-73
4.18.3	DELUGE/SPRINKLER SYSTEM	4-74
4.18.4	CO <sub>2</sub> SYSTEM	4-74
4.18.5	HALON SYSTEMS	4-75
4.18.6	HOSE STATIONS	4-76
4.19	<u>OTSG TUBE INSERVICE INSPECTION</u>	4-77
4.19.1	STEAM GENERATOR SAMPLE SELECTION AND INSPECTION METHODS	4-77
4.19.2	STEAM GENERATOR TUBE SAMPLE SELECTION AND INSPECTION	4-77
4.19.3	INSPECTION FREQUENCIES	4-79
4.19.4	ACCEPTANCE CRITERIA	4-80
4.19.5	REPORTS	4-81
4.20	<u>REACTOR BUILDING AIR TREATMENT</u>	4-86
5	<u>DESIGN FEATURES</u>	5-1
5.1	<u>SITE</u>	5-1
5.2	<u>CONTAINMENT</u>	5-2
5.2.1	REACTOR BUILDING	5-2
5.2.2	REACTOR BUILDING ISOLATION SYSTEM	5-3
5.3	<u>REACTOR</u>	5-4
5.3.1	REACTOR CORE	5-4
5.3.2	REACTOR COOLANT SYSTEM	5-4
5.4	<u>NEW AND SPENT FUEL STORAGE FACILITIES</u>	5-6
5.4.1	NEW FUEL STORAGE	5-6
5.4.2	SPENT FUEL STORAGE	5-6
5.5	<u>AIR INTAKE TUNNEL FIRE PROTECTION SYSTEMS</u>	5-8



TABLE 4.1-3  
MINIMUM SAMPLING FREQUENCY

<u>Item</u>	<u>Check</u>	<u>Frequency</u>
1. Reactor Coolant	a. Radio-Chemical Analysis (1) b. $\bar{E}$ determination (2) c. 15 Min. Gross Degassed Beta-Gamma Activity (1) d. Tritium Radioactivity e. Chemistry (Cl, F and O <sub>2</sub> ) f. Boron Concentration	Monthly Semi-annually 5 times/week when Tavg is greater than 200°F Monthly 5 times/week when Tavg is greater than 200°F 2 times/week
2. Borated Water Storage Tank Water Sample	Boron Concentration	Weekly and after each makeup when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
3. Core Flooding Tank Water Sample	Boron Concentration	Monthly and after each makeup when RCS pressure is greater than 700 psig
4. Spent Fuel Pool Water Sample	Boron Concentration	Monthly and after each makeup
5. Secondary Coolant	a. 15 Min. Gross Degassed Beta-Gamma Activity  b. Iodine Analysis (3)	Weekly when reactor coolant system pressure is greater than 300 psig or Tavg is greater than 200°F
6. Boric Acid Mix Tank or Reclaimed Boric Acid Tank	Boron Concentration	Twice weekly (4)
10. Sodium Hydroxide Tank	Concentration	Quarterly and after each makeup
11. Sodium Thiosulphate Tank	Concentration	Quarterly and after each makeup
12. Condenser Partition Factor	I <sup>131</sup> Partition Factor	Once if primary/secondary leakage develops, i.e.: Gross Beta-Gamma on secondary side of OTSG is greater than $2 \times 10^{-8}$ microcuries per cc and evidence of fission products is present

- (1) When radioactivity level is greater than 10 percent of the limits of Specification 3.1.4, the sampling frequency shall be increased to a minimum of 5 times per week.
- (2)  $\bar{E}$  determination will be started when the 15 minute gross degassed beta-gamma activity analysis indicates greater than 10  $\mu\text{Ci/ml}$  and will be redetermined each 10  $\mu\text{Ci/ml}$  increase in the 15 minute gross degassed beta-gamma activity analysis. A radio chemical analysis for this purpose shall consist of a quantitative measurement of 95 percent of radionuclides in reactor coolant with half lives of  $\geq 30$  minutes.
- (3) When the 15 minute gross degassed activity increases by a factor of two above background, an iodine analysis will be made and performed thereafter when the 15 minute gross degassed beta-gamma activity increases by 10 percent.
- (4) The surveillance of either the Boric Acid Mix Tank or the Reclaimed Boric Acid Tank is not necessary when that respective tank is empty.

#### 4.4.2 Structural Integrity

##### Specification

#### 4.4.2.1 Inservice Tendon Surveillance Requirements

The surveillance program for structural integrity and corrosion protection conforms to the recommendations of the U. S. Atomic Energy Commission Regulatory Guide 1.35, proposed Revision 3, "Inservice Surveillance of Ungrouted Tendons in Prestressed Concrete Containment Structures." The detailed surveillance program for the prestressing system tendons shall be based on periodic inspection and mechanical tests to be performed on selected tendons, as specified hereafter.

##### 4.4.2.1.1 Containment Tendons

Tendon surveillance was completed for one, three and five years following initial structural integrity using a Tech. Spec. based on Regulatory Guide 1.35 Rev. 1. The containment tendon structural integrity shall be demonstrated at five year intervals thereafter by:

- a. Determining that for a representative sample\* of at least 23 tendons (6 dome, 7 vertical, and 10 hoop) each tendon has a lift off force equalling, or exceeding, its lower limit predicted for the time of the test as defined in NRC Regulatory Guide 1.35, "Inservice Inspection for Ungrouted Tendons in Prestressed Concrete Containments", Proposed Revision 3, April, 1979.

If the lift off force of a selected tendon in a group lies between the prescribed lower limit and 90% of that limit, one tendon on each side of this tendon shall be checked for their lift off forces. If the lift off forces of the adjacent tendons are equal to, or greater than, their prescribed lower limits at the time of the test, the single deficiency shall be considered unique and acceptable. If the lift off force of either adjacent tendons lies below the prescribed lower limit for that tendon, the condition is reportable per T.S. 6.9.2.A3.

If the lift off force of any one tendon lies below 90% of its prescribed lower limit, the tendon shall be considered a defective tendon. It shall be completely detensioned and a determination made as to the cause of the occurrence. The condition is reportable per T.S. 6.9.2.A3.

If the inspections performed at one, three, and five years indicate no abnormal degradation of the post-tensioning system, the number of tendons checked for lift off force during subsequent tests may be reduced to a representative sample of at least 11 tendons (3 dome, 3 vertical, and 5 hoop).

\*For each inspection, the tendons shall be selected on a random but representative basis so that the sample group will change somewhat for each inspection; however, to develop a history of tendon performance and to correlate the observed data one tendon from each group (dome, vertical, and hoop) may be kept unchanged after the initial selection.

#### 4.8 MAIN STEAM ISOLATION VALVES

##### Applicability

Applies to the periodic testing of the main steam isolation valves.

##### Objective

To specify the minimum frequency and type of tests to be applied to the main steam isolation valves.

##### Specification

- 4.8.1 A check of valve stem movement, up to 10 percent, shall be performed on a monthly basis when the unit is operational and under normal flow and load conditions.
- 4.8.2 The main steam isolation valves shall be tested at intervals not to exceed the normal refueling outage. Closure time of < 120 seconds shall be verified. This test will be performed under no flow and no load conditions.

##### Bases

Since a portion of the main steam lines and the steam lines to the main feed pump turbines are located in the turbine hall which is not protected against hypothetical tornado, missile, or aircraft incident; main steam isolation stop check valves are provided and located in the hardened portion of the intermediate building. These stop check valves are remotely closed by the operator from the control room, close in less than two minutes, and are tight closing <sup>(1)</sup> for long term containment isolation. Their ability to close upon signal should be verified at intervals not to exceed each scheduled refueling shutdown, and valve stem freedom should be checked on a monthly basis.

##### References

- (1) FSAR, Section 10.2.1.3

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