

TABLE OF CONTENTS
TECHNICAL SPECIFICATIONS
APPENDIX A

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
1.0	Definitions	1.1-1
1.0.a	Quadrant-to-Average Power Tilt Ratio	1.1-1
1.0.b	Safety limits	1.1-1
1.0.c	Limiting Safety System Settings	1.1-1
1.0.d	Limiting Conditions for Operation	1.1-1
1.0.e	Operable	1.1-2
1.0.f	Operating	1.1-2
1.0.g	Containment System Integrity	1.1-2
1.0.h	Protective Instrumentation Logic	1.1-2
1.0.i	Instrumentation Surveillance	1.1-3
1.0.j	Operating Modes	1.1-4
1.0.k	Reactor Critical	1.1-4
1.0.l	Refueling Operation	1.1-5
1.0.m	Rated Power	1.1-5
1.0.n	Reportable Event	1.1-5
2.0	Safety Limits and Limiting Safety System Settings	2.1-1
2.1	Safety Limits, Reactor Core	2.1-1
2.2	Safety Limit, Reactor Coolant System Pressure	2.2-1
2.3	Limiting Safety System Settings, Protective Instrumentation	2.3-1
2.3.a	Reactor Trip Settings	2.3-1
2.3.a.1	Nuclear Flux	2.3-1
2.3.a.2	Pressurizer	2.3-1
2.3.a.3	Reactor Coolant Temperature	2.3-1
2.3.a.4	Reactor Coolant Flow	2.3-3
2.3.a.5	Steam Generators	2.3-3
2.3.a.6	Reactor Trip Interlocks	2.3-3
2.3.a.7	Other Trips	2.3-3
3.0	Limiting Conditions for Operation	3.1-1
3.1	Reactor Coolant System	3.1-1
3.1.a	Operational Components	3.1-1
3.1.a.1	Reactor Coolant Pumps	3.1-1
3.1.a.2	Steam Generator	3.1-1
3.1.a.3	Pressurizer Safety Valves	3.1-2
3.1.a.4	Pressure Isolation Valves	3.1-2
3.1.a.5	Pressurizer PORV and Block Valves	3.1-2a
3.1.b	Heat-up and Cool-down Limit Curves for Normal Operation	3.1-3
3.1.c	Maximum Coolant Activity	3.1-9
3.1.d	Leakage of Reactor Coolant	3.1-11
3.1.e	Maximum Reactor Coolant Oxygen, Chloride and Fluoride Concentration	3.1-14
3.1.f	Minimum Conditions for Criticality	3.1-16
3.2	Chemical and Volume Control System	3.2-1

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
5.0	Design Features	5.1-1
5.1	Site	5.1-1
5.2	Containment	5.2-1
5.2.a	Containment System	5.2-1
5.2.b	Reactor Containment Vessel	5.2-2
5.2.c	Shield Building	5.2-2
5.2.d	Shield Building Ventilation System	5.2-2
5.2.e	Auxiliary Building Special Ventilation Zone and Special Ventilation System	5.2-3
5.3	Reactor	5.3-1
5.3.a	Reactor Core	5.3-1
5.3.b	Reactor Coolant System	5.3-2
5.4	Fuel Storage	5.4-1
6.0	Administrative Controls	6-1
6.1	Responsibility	6-1
6.2	Organization	6-1
6.2.1	Off-Site	6-1
6.2.2	Facility Staff	6-1
6.2.3	Organizational Changes	6-2
6.3	Plant Staff Qualifications	6-2
6.4	Training	6-2a
6.5	Review and Audit	6-2a
6.5.1	Plant Operations Review Committee (PORC)	6-2a
6.5.1.1	Function	6-2a
6.5.1.2	Composition	6-3
6.5.1.3	Alternates	6-3
6.5.1.4	Meeting Frequency	6-3
6.5.1.5	Quorum	6-3
6.5.1.6	Responsibilities	6-4
6.5.1.7	Authority	6-5
6.5.1.8	Records	6-5
6.5.2	Corporate Nuclear Engineering Staff	6-5
6.5.2.1	Function	6-5
6.5.2.2	Organization	6-6
6.5.2.3	Activities	6-6
6.5.2.4	Authority	6-7
6.5.3	Nuclear Safety Review and Audit Committee	6-7
6.5.3.1	Function	6-7
6.5.3.2	Composition	6-7
6.5.3.3	Alternates	6-8
6.5.3.4	Consultants	6-8
6.5.3.5	Meeting Frequency	6-8
6.5.3.6	Quorum	6-9
6.5.3.7	Review	6-9
6.5.3.8	Audits	6-10
6.5.3.9	Authority	6-11
6.5.3.10	Records	6-11
6.6	Reportable Events	6-11a
6.6.1	Actions	6-11a

<u>Section</u>	<u>Title</u>	<u>Page TS</u>
6.7	Safety Limit Violation	6-12
6.8	Procedures	6-12
6.9	Reporting Requirements	6-13
6.9.1	Routine Reports	6-13
6.9.1.a	Start-up Report	6-13
6.9.1.b	Annual Reporting Requirements	6-14
6.9.1.c	Monthly Operating Report	6-15
6.9.2	Deleted	
6.9.3	Unique Reporting Requirements	6-19
6.9.3.a	Annual Environmental Operating Report	6-19
6.9.3.b	Radioactive Effluent Releases	6-20
6.9.3.c	Safety Class I Inservice Inspection	6-23
6.10	Record Retention	6-23
6.11	Radiation Protection Program	6-24
6.12	System Integrity	6-24a
6.13	High Radiation Area	6-25
6.14	Deleted	6-28

1. Refueling Operation

Refueling operation is any operation involving movement of Reactor Vessel internal components (those that could affect the reactivity of the core) within the containment when the vessel head is unbolted or removed.

m. Rated Power

Rated power is the steady-state reactor core output of 1650 MWt.

n. Reportable Event

A reportable event is defined as any of those conditions specified in 10CFR50.73.

62

TABLE TS 3.5-5 (1 of 2)
INSTRUMENTATION OPERATING CONDITIONS FOR INDICATION

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>REQUIRED TOTAL NO. OF CHANNELS*</u>	<u>MINIMUM CHANNELS OPERABLE**</u>
1	Auxiliary Feedwater Flow to Steam Generators (Narrow Range Level Indication already required operable by Tech Spec Table TS 3.5-2 Item 12).	1/steam gen	1/steam gen
2	Reactor Coolant System Subcooling Margin	2	1
3	Pressurizer Power Operated Relief Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve	1/valve
4	Pressurizer Power Operated Relief Block Valve Position (One Common Channel Temperature, One Channel Limit Switch per Valve)	2/valve	1/valve
5	Pressurizer Safety Valve Position (One Channel Temperature, and one Acoustic Sensor per valve)	2/valve	1/valve

* With the number of Operable monitoring instrumentation channels less than the Required Total Number of Channels shown, either restore the inoperable channels to Operable status within fourteen days, or be in at least Hot Shutdown within the next 12 hours.

** With the number of Operable event monitoring instrumentation channels less than the Minimum Channels Operable requirements, either restore the minimum number of channels to Operable status within 72 hours or be in at least Hot Shutdown within the next 12 hours.

TABLE TS 3.5-5 (1 of 2)

Proposed Amendment No. 62
07/27/84

system is inoperable for 7 consecutive days of power operation, the Commission shall be informed within 30 days. Additional reports of the status of the systems shall be made every 30 days until the system is repaired. Power operation may be continued until the next refueling period provided best efforts are utilized to restore the operability of the system or systems.

Basis

The moveable detector system is used to measure the core fission power density distribution. A power map made with this system following each fuel loading will confirm the proper fuel arrangement within the core. The moveable detector system is designed with substantial redundancy so that part of the system could be out of service without reducing the value of a power map. If the system is severely degraded, large measurement uncertainty factors must be applied. The uncertainty factors would necessarily depend on the operable configuration.

Two detector thimbles per quadrant are sufficient to provide data for the normalization of the excore detector system's axial power offset feature.

The core thermocouples provide an independent means of measuring the balance of power among the core quadrants. If one excore power channel is out of service, it is prudent to have available an independent means of determining the quadrant power balance.

The moveable detector system and the thermocouple system are not integral parts of the Reactor Protection System. These systems are, rather, surveillance systems which may be required

3.15 FIRE PROTECTION SYSTEM

Applicability

This specification applies to the operability of fire protection and detection systems which protect systems, components, equipment and structures required for safe shutdown and for containment of radioactive materials.

Objective

To assure the operability of fire protection and detection systems.

Specifications

- a. The fire detection instrumentation for each fire area shall be operable as shown in Table TS 3.15-1.

When the fire detection instruments fall below the minimum required operable shown in Table TS 3.15-1:

1. A fire watch patrol shall be established within one hour to inspect the area(s) below minimum required instrumentation with the frequency shown in Table TS 3.15-1 for the affected area(s), and
2. Restore the operable instruments to a number above the minimum required operable for that area within 14 days or submit a report to the Commission within the next 30 days outlining the corrective actions taken.

62

- b. Fire Water System

The fire water system shall be OPERABLE at all times with;

1. Two fire pumps, each with their discharge aligned to the fire suppression header,
2. An OPERABLE flow path capable of taking suction from the Circulating Water intake and transferring the water through distribution piping with OPERABLE sectionalizing control or isolation valves to the yard hydrant curb valves and the front valve ahead of the water flow alarm device on each sprinkler, hose standpipe or spray system riser.
3. With one pump inoperable, restore the inoperable pump to OPERABLE status within 7 days or submit a report to the Commission

62

within the next 30 days outlining the corrective actions taken.

62

4. With no fire water systems operable:

A. Establish a backup fire water system within 24 hours.

B. Submit a report to the Commission;

62

a) By telephone within 24 hours, and

b) In writing no later than the first working day following the event, and

c) In writing within 14 days following the event, outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

c. Spray And/Or Sprinkler Systems

Whenever equipment in spray and/or sprinkler protection areas is required the following spray and/or sprinkler systems shall be OPERABLE:

1. Special Ventilation Room AX-23

2. Cable Tray Sprinkler System AX-32

62

3. Screenhouse Sprinkler System

With one or more of the above required spray and/or sprinkler systems inoperable, establish backup fire suppression equipment for the unprotected area(s) within one hour; restore the system to OPERABLE status within 14 days or submit a report to the Commission within the next 30 days outlining the corrective actions taken.

62

d. Low Pressure CO₂ Systems

Whenever equipment in the low pressure CO₂ protected areas is required to be OPERABLE, the following low pressure CO₂ systems shall be OPERABLE with a minimum of 60% indicated level and a minimum pressure of 275 psig in the associated storage tank(s).

1. Diesel Generator 1A, TU-90 and day tank room, TU-91

2. Diesel Generator 1B, TU-92 and day tank room, TU-93

3. Hose station adjacent to Battery Rooms 1A and 1B
4. Hose station adjacent to Air Compressor and Pump Room
5. Hose station adjacent to 4160 V switchgear and S/G Blowdown Tank Rooms.

With one or more of the above required low pressure CO₂ systems inoperable, establish backup fire suppression equipment for the unprotected area(s) within one hour; restore the system to OPERABLE status within 14 days or submit a report to the Commission within the next 30 days outlining the corrective actions taken.

62

e. Fire Hose Stations

Whenever the equipment in areas protected by the fire hose stations shown in Table TS 3.15-2 is required to be OPERABLE, those stations shall be OPERABLE.

With one or more of the fire hose stations show in Table TS 3.15-2 inoperable. route an additional equivalent capacity fire hose to the unprotected area(s) from an OPERABLE hose station within one hour.

f. Penetration Fire Barriers

All penetration fire barriers protecting safety related areas shall be intact at all times, or

A fire watch on at least one side of the affected penetration will be established within one hour.

BASES

Fire Detection Instrumentation

OPERABILITY of the fire detection instrumentation ensures that adequate warning capability is available for the prompt detection of fires. This capability is necessary in order to detect and locate fires in their early stages. Prompt detection of fires will reduce the potential for damage to safety related equipment and is an integral element in the overall plant fire protection program.

Each fire area has been evaluated for the minimum number of detectors required functional in order to detect a fire within that area which may pose a threat to the safety related equipment in that area.

5. Reports

- a. Following each inservice inspection of steam generator tubes, if there are any tubes requiring plugging, the number of tubes plugged shall be reported to the Commission within 15 days.
- b. The results of the steam generator tube inservice inspection shall be included in the Annual Operating Report for the period in which this inspection was completed. This report shall include:
 1. Number and extent of tubes inspected.
 2. Location and percent of wall-thickness penetration for each indication of a degradation.
 3. Identification of tubes plugged.
- c. Results of steam generator tube inspections which fall into Category C-3 and require prompt notification of the Commission shall be reported prior to resumption of plant operation. A written followup report shall be submitted to the Commission within 30 days and include a description of investigations conducted to determine the cause of the tube degradation and corrective measures taken to prevent recurrence.

62

It is WPS policy to operate in a manner such that the secondary coolant will be maintained within those chemistry conditions found to result in negligible corrosion of the steam generator tubes. The allowable defects during plant operation would be limited by the limitation of steam generator tube leakage between the reactor coolant system and the secondary coolant system (reactor coolant-to-secondary leakage in excess of the limits of Specification 3.1.d). Steam generators having leakage less than these limits during operation are judged to have an adequate margin of safety between tube inspection intervals to withstand the loads imposed during normal operation and by postulated accidents. Operating plants have demonstrated that reactor coolant-to-secondary leakage of Specification 3.1.d can readily be detected by the secondary coolant radiation monitors. Leakage in excess of this limit will require plant shutdown and an unscheduled inspection, during which the leaking tubes will be located and plugged.

Wastage-type defects are unlikely with proper chemistry treatment of the secondary coolant. However, even if a defect should develop in service, it will be found during scheduled inservice steam generator tube examinations. Plugging will be required for all tubes with imperfections exceeding the plugging limit. Steam generator tube inspections of operating plants have demonstrated the capability to reliably detect 20% tube degradation.

Whenever the results of any steam generator tubing inservice inspection fall into Category C-3, these results will be promptly reported to the Commission pursuant to Specification 4.2(b)(5)(c).

62

TABLE 4.2-2

STEAM GENERATOR TUBE INSPECTION

1ST SAMPLE INSPECTION			2ND SAMPLE INSPECTION		3RD SAMPLE INSPECTION	
Sample Size	Result	Action Required	Result	Action Required	Result	Action Required
A minimum of S Tubes per S. G.	C-1	None	N/A	N/A	N/A	N/A
	C-2	Plug defective tubes and inspect additional 2S tubes in this S. G.	C-1	None	N/A	N/A
			C-2	Plug defective tubes and inspect additional 4S tubes in this S.G.	C-1	None
					C-2	Plug defective tubes
					C-3	Perform action for C-3 result of first sample
			C-3	Perform action for C-3 result of first sample	N/A	N/A
	C-3	Inspect all tubes in this S.G., plug defective tubes and inspect 2S tubes in the other S. G. Prompt notification of the Commission.*	The other S.G.'s are C-1	None	N/A	N/A
			Some S.G.'s C-2 but no additional S.G. are C-3	Perform action for C-2 result of second sample	N/A	N/A
			Additional S.G. is C-3	Inspect all tubes in each S.G. and plug defective tubes. Prompt notification of the Commission.*	N/A	N/A

$S = 6\%/n$ Where n is the number of steam generators inspected during an inspection.

*Note: Refer to Specification 4.2(b)(5)(c)

4.9 REACTIVITY ANOMALIES

Applicability

Applies to potential reactivity anomalies.

Objective

To require evaluation of reactivity anomalies within the reactor.

Specification

Following a normalization of the computed boron concentration as a function of burnup, the actual boron concentration of the coolant shall be periodically compared with the predicted value. If the difference between the observed and predicted steady-state concentrations reaches the equivalent of one percent in reactivity, an evaluation as to the cause of the discrepancy shall be made and reported to the Commission within 30 days.

62

Basis

To eliminate possible errors in the calculations of the initial reactivity of the core and the reactivity depletion rate, the predicted relation between fuel burn-up and the boron concentration, necessary to maintain adequate control characteristics, must be adjusted (normalized) to accurately reflect actual core conditions. When full power is reached initially, and with the control rod groups in the desired positions, the boron concentration is measured and the predicted curve is adjusted to this point. As power operation proceeds, the measured boron concentration is compared with the predicted concentration and the slope of the curve relating burn-up and reactivity is compared with that predicted. This process of normalization should be completed after about 10% of the total core burn-up. Thereafter, actual boron concentration can be compared with prediction, and the reactivity

changes to the Vice-President - Nuclear Power.

i. Review of all Reportable Events

62

AUTHORITY

6.5.1.7 The PORC shall:

- a. Recommend to the Plant Manager approval or disapproval of items considered under 6.5.1.6a through d above.
- b. Make determinations with regard to whether or not each item considered under 6.5.1.6a through e above constitutes an unreviewed safety question.
- c. Provide immediate notification in the form of draft meeting minutes to the Manager-Nuclear Power and the Chairman-Nuclear Safety Review and Audit Committee of disagreement between the PORC and the Plant Manager. The Plant Manager shall have responsibility for resolution of such disagreements.

REGORDS

6.5.1.8 Minutes shall be kept of all meetings of the PORC and copies shall be sent to the Manager -Nuclear Power and the Chairman-Nuclear Safety Review and Audit Committee.

6.5.2 CORPORATE NUCLEAR ENGINEERING STAFF (CNES)

FUNCTION

6.5.2.1 The CNES shall function to provide engineering,

- f. Reports covering significant operating abnormalities or deviations from normal and expected performance of plant equipment that affect nuclear safety.
- g. Reports covering all Reportable Events.
- h. Reports covering any indication of an unanticipated deficiency in some aspect of design or operation of safety related structures, systems, or components.
- i. Reports and meeting minutes of the PORC.

62

AUDITS

6.5.3.8 Audits of plant activities shall be performed under the cognizance of the NSRAC; these audits shall include:

- a. Conformance of plant operation to the provisions contained within the Technical Specifications and applicable license conditions at least annually.
- b. Performance, training, and qualifications of the entire plant staff at least annually.
- c. Results of all actions taken to correct deficiencies occurring in plant equipment, structures, systems, or method of operation that affect nuclear safety at least semi-annually.
- d. Performance of all activities required by the Quality Assurance Program to meet the criteria of Appendix "B", 10 CFR 50, at least once every two years.
- e. Plant Emergency Plan and Security Plan and their implementing procedures at least once every two years.
- f. The Plant Fire Protection Program, implementing procedures and the independent fire protection and loss prevention program at least once every 24 months.

- g. Any other area of plant operation considered appropriate by the NSRAC or the Vice-President - Nuclear Power.

AUTHORITY

- 6.5.3.9 The NSRAC shall report to and advise the Vice-President - Nuclear Power on those areas of responsibility specified in Section 6.5.3.7 and 6.5.3.8.

RECORDS

- 6.5.3.10 Records of NSRAC activities shall be prepared, approved and distributed as follows:
 - a. Minutes of each NSRAC meeting forwarded to the Vice-President - Nuclear Power within 14 days following each meeting.
 - b. Reports of reviews required by Section 6.5.3.7e, f, g and h above, forwarded to the Vice-President - Nuclear Power within 14 days following completion of the review.
 - c. Reports of audits performed by NSRAC shall be forwarded to the Vice-President - Nuclear Power and to the management positions responsible for the areas audited within 30 days after completion of the audit.

6.6 REPORTABLE EVENTS

Actions

6.6.1 The following actions shall be taken for Reportable Events:

- a. The Commission shall be notified and a report submitted pursuant to the requirements of 10CFR50.73, and
- b. Each Reportable Event shall be reviewed by PORC, and the results of this review shall be submitted to NSRAC and the Manager-Nuclear Power.

6.7 SAFETY LIMIT VIOLATION

- 6.7.1 The following actions shall be taken in the event a safety limit is violated:
- a. The reactor shall be shutdown and operation shall not be resumed until authorized by the Commission.
 - b. The Safety Limit violation shall be reported to the Commission, the Manager-Nuclear Power, and to the NSRAC-Chairman within 30 days of the violation.
 - c. The Report shall be prepared in accordance with Section 6.6 of the Technical Specifications.

62

6.8 PROCEDURES

- 6.8.1 Written procedures and administrative policies shall be established, implemented and maintained that meet the requirements and recommendations of Section 5.1 and 5.3 of ANSI N18.7-1972.
- 6.8.2 Each procedure and administrative policy of 6.8.1 above, and changes thereto, shall be reviewed by the Plant Manager prior to implementation and periodically as determined by the Plant Manager.
- 6.8.3 Temporary changes to procedures of 6.8.1 above may be made provided:
- a. The intent of the original procedure is not altered.
 - b. The change is approved by two members of the Plant Management Staff, at least one of which holds a Senior Reactor Operator's License, if the procedure affects nuclear safety.
 - c. The change is documented, reviewed by the PORC, and approved by the Plant Manager.

c. Monthly Operating Report

Routine reports of operating statistics and shutdown experience shall be submitted on a monthly basis to the Office of Inspection and Enforcement U.S. Nuclear Regulatory Commission, Washington, D.C., 20555, with a copy to the appropriate Regional Office, to be submitted by the fifteenth of each month following the calendar month covered by the report.

6.9.2 DELETED

Page TS 6-16 DELETED

62

Page TS 6-17 DELETED

62

TS 6-17

Proposed Amendment No. 62
07/27/84

Page TS 6-18 DELETED

62

TS 6-18

Proposed Amendment No. 62
07/27/84

6.9.3 Unique Reporting Requirements

a. Annual Environmental Operating Reports

- (1) For each medium sampled during the reporting period, e.g., air, lake bottom, surface water, soil, fish, include:

(a) Number of sampling locations,

- (c) Disposition including date and destination if shipped offsite.

c. Safety Class I Inservice Inspection

Sixty days after the completion of the first re-fueling outage.

6.10 RECORD RETENTION

6.10.1 The following records shall be retained for at least five years:

- a. Records and logs of plant operation, including power levels and periods of operation at each power level.
- b. Records and logs of principal maintenance activities, inspections, repair and replacement of principal items of equipment pertaining to nuclear safety.
- c. Reports of all Reportable Events.
- d. Records of periodic checks, inspections, and calibrations required by these Technical Specifications.
- e. Records of nuclear safety related tests or experiments.
- f. Records of radioactive shipments.
- g. Records of changes to operating procedures.
- h. Records of sealed source leak tests and results.
- i. Records of annual physical inventory of all source material of record.
- j. Records of Quality Assurance activities required by the QA Manual except where it is determined that the records should be maintained for a longer period of time.