

- (3) SCE, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (4) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
 - (5) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
 - (6) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of San Onofre Nuclear Generating Station, Units 1 and 2 and by the decommissioning of San Onofre Nuclear Generating Station Unit 1.
- C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:
- (1) Maximum Power Level
Southern California Edison Company (SCE) is authorized to operate the facility at reactor core power levels not in excess of full power (3438 megawatts thermal).
 - (2) Technical Specifications
The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, as revised through Amendment No. 204, are hereby incorporated in the license. Southern California Edison Company shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

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1.1 Definitions

ENGINEERED SAFETY
FEATURE (ESF) RESPONSE
TIME (Continued)

measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) leakoff), that is captured and conducted to collection systems or a sump or collecting tank;
2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; or
3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE).

b. Unidentified LEAKAGE

All LEAKAGE that is not identified LEAKAGE.

c. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

MODE

A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.13 RCS Operational LEAKAGE

LCO 3.4.13 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. 1 gpm unidentified LEAKAGE;
- c. 10 gpm identified LEAKAGE; and
- d. 150 gallons per day primary to secondary LEAKAGE through any one Steam Generator (SG).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RCS Operational LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE or primary to secondary LEAKAGE.	A.1 Reduce LEAKAGE to within limits.	4 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Pressure boundary LEAKAGE exists. <u>OR</u> Primary to secondary LEAKAGE not within limit.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.13.1	<p>-----NOTES-----</p> <p>1. Not required to be performed in MODE 3 or 4 until 12 hours of steady state operation.</p> <p>2. Not applicable to primary to secondary LEAKAGE.</p> <p>-----</p> <p>Perform RCS water inventory balance.</p>	<p>-----NOTE-----</p> <p>Only required to be performed during steady state operation. If a transient evolution is occurring 72 hours from the last water inventory balance, then a water inventory balance shall be performed within 120 hours of the last water inventory balance</p> <p>-----</p> <p>72 hours</p>
	<p>-----NOTE-----</p> <p>Not required to be performed until 12 hours after establishment of steady state operation.</p> <p>-----</p>	
SR 3.4.13.2	Verify primary to secondary LEAKAGE is ≤ 150 gallons per day through any one SG.	72 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.17 Steam Generator (SG) Tube Integrity

LC0 3.4.17 SG tube integrity shall be maintained.

AND

All SG tubes satisfying the tube repair criteria shall be plugged or repaired in accordance with the Steam Generator Program.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each SG tube.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SG tubes satisfying the tube repair criteria and not plugged or repaired in accordance with the Steam Generator Program.	A.1 Verify tube integrity of the affected tube(s) is maintained until the next refueling outage or SG tube inspection.	7 days
	<u>AND</u> A.2 Plug or repair the affected tube(s) in accordance with the Steam Generator Program.	Prior to entering MODE 4 following the next refueling outage or SG tube inspection
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> SG tube integrity not maintained.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
SR 3.4.17.1 Verify SG tube integrity in accordance with the Steam Generator Program.	In accordance with the Steam Generator Program
SR 3.4.17.2 Verify that each inspected SG tube that satisfies the tube repair criteria is plugged or repaired in accordance with the Steam Generator Program.	Prior to entering MODE 4 following a SG tube inspection

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.8 Primary Coolant Sources Outside Containment Program (continued)

system (post-accident sampling return piping only until such time as a modification eliminates the post-accident piping as a potential leakage path). The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at refueling cycle intervals or less.

5.5.2.9 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containment, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. Program itself is relocated to the LCS.

5.5.2.10 Inservice Inspection and Testing Program

This program provides controls for inservice inspection of ASME Code Class 1, 2, and 3 components and Code Class CC and MC components including applicable supports. The program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. The program itself is located in the LCS.

5.5.2.11 Steam Generator (SG) Program

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following provisions:

- a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging or repair of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected, plugged, or repaired to confirm that the performance criteria are being met.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

- b. Performance criteria for SG tube integrity. SG tube integrity shall be maintained by meeting the performance criteria for tube structural integrity, accident induced leakage, and operational LEAKAGE.
 - 1. Structural integrity performance criterion: All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down and all anticipated transients included in the design specification) and design basis accidents. This includes retaining a safety factor of 3.0 against burst under normal steady state full power operation primary-to-secondary pressure differential and a safety factor of 1.4 against burst applied to the design basis accident primary-to-secondary pressure differentials. Apart from the above requirements, additional loading conditions associated with the design basis accidents, or combination of accidents in accordance with the design and licensing basis, shall also be evaluated to determine if the associated loads contribute significantly to burst or collapse. In the assessment of tube integrity, those loads that do significantly affect burst or collapse shall be determined and assessed in combination with the loads due to pressure with a safety factor of 1.2 on the combined primary loads and 1.0 on axial secondary loads.
 - 2. Accident induced leakage performance criterion: The primary to secondary accident induced leakage rate for any design basis accident, other than a SG tube rupture, shall not exceed the leakage rate assumed in the accident analysis in terms of total leakage rate for all SGs and leakage rate for an individual SG. Leakage is not to exceed 0.5 gpm per SG and 1 gpm through both SGs.
 - 3. The operational LEAKAGE performance criterion is specified in LCO 3.4.13, "RCS Operational LEAKAGE."

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

- c. Provisions for SG tube repair criteria. The non-sleeved region of a tube found by inservice inspection to contain flaws with a depth equal to or exceeding 44% of the nominal tube wall thickness shall be plugged or repaired except if the flaws are permitted to remain in service through application of an alternate tube repair criteria discussed below.

Tubes shall be plugged if the sleeved region of a tube is found by inservice inspection to contain flaws in the (a) sleeve or (b) pressure boundary portion of the original tube wall in the sleeve tube assembly (i.e., the sleeve-to-tube joint).

- d. Provisions for SG tube inspections. Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube repair criteria. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1, d.2, d.3, and d.4 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. An assessment of degradation shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

1. Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement.
2. Inspect 100% of the tubes at sequential periods of 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. No SG shall operate for more than 24 effective full power months or one refueling outage (whichever is less) without being inspected.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

3. If crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.
4. All sleeves shall be inspected with eddy current prior to initial operation. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld and the pressure retaining portion of the sleeve.
- e. Provisions for monitoring operational primary to secondary LEAKAGE.
- f. Provisions for SG tube repair methods. Steam generator tube repair methods shall provide the means to re-establish the RCS pressure boundary integrity of SG tubes without removing the tube from service. For the purposes of these Specifications, tube plugging is not a repair. All acceptable tube repair methods are listed below.
 1. TIG welded sleeving with heat treatment, as described in ABB/CE Topical Report, CEN-630-P, Rev. 2, is currently approved by the NRC.

Tube repair can be performed on certain tubes that have been previously plugged as a corrective or preventive measure. A tube inspection of the entire length of the tube shall be performed on a previously plugged tube prior to returning the tube to service.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.12 Ventilation Filter Testing Program (VFTP)

This Program establishes the required testing of the Engineered Safety Feature filter ventilation systems, "Control Room Emergency Air Cleanup System" and "Fuel Handling Building Post-accident Cleanup Filter System." The frequency of testing shall be in accordance with Regulatory Guide 1.52, Revision 2. As a minimum the VFTP program shall include the following:

- a. Inplace testing of the high efficiency particulate air (HEPA) filters to demonstrate acceptable penetration and system bypass when tested at the appropriate system flowrate in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 (see Note 1); and
- b. Inplace testing of the charcoal adsorber to demonstrate acceptable penetration and system bypass when tested at the appropriate system flowrate in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 (see Note 1); and
- c. Laboratory testing of charcoal adsorber samples obtained in accordance with Regulatory Guide 1.52, Revision 2 and tested per the methodology of ASTM D3803-1989 at 30°C and 70% relative humidity to show acceptable methyl iodide penetration; and
- d. Testing to demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers, when tested at the appropriate system flowrate.

Note 1: Sample and injection points shall be qualified per ANSI N510-1975 unless manifolds have been qualified per ASME N510-1989. HEPA testing will be conducted with DOP aerosol or suitable alternate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.12 Ventilation Filter Testing Program (VFTP) (continued)

The provisions of Technical Specification Surveillance Requirement 3.0.2 and Technical Specification Surveillance Requirement 3.0.3 are applicable to the VFTP test frequencies.

5.5.2.13 Diesel Fuel Oil Testing Program

This program implements required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM standards. The purpose of the program is to establish the following:

- a. Acceptability of new fuel oil use prior to addition to storage tanks by determining that the fuel oil has:
 1. an API gravity or an absolute specific gravity within limits,
 2. a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and
 3. a water and sediment content within limits.
- b. Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to the storage tanks, with exceptions noted in the Bases for Surveillance Requirement 3.8.3.3; and,
- c. Total particulate concentration of fuel oil is ≤ 10 mg/l when tested every 92 days in accordance with ASTM D-2276, Method A.

5.5.2.14 Deleted

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5.5 Procedures, Programs, and Manuals (continued)

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5.5 Procedures, Programs, and Manuals (continued)

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5.7 Reporting Requirements (continued)

5.7.2 Special Reports

Special Reports may be required covering inspection, test, and maintenance activities. These special reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

Special Reports shall be submitted to the U. S. Nuclear Regulatory Commission, Attention: Document Control Desk, Washington, D. C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, in accordance with 10 CFR 50.4 within the time period specified for each report.

The following Special Reports shall be submitted:

- a. When a pre-planned alternate method of monitoring post-accident instrumentation functions is required by Condition B or Condition G of LCO 3.3.11, a report shall be submitted within 30 days from the time the action is required. The report shall outline the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the function to OPERABLE status.
- b. Any abnormal degradation of the containment structure detected during the tests required by the Pre-Stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.
- c. A report shall be submitted within 180 days after the initial entry into MODE 4 following completion of an inspection performed in accordance with the Specification 5.5.2.11, Steam Generator (SG) Program. The report shall include:

(continued)

5.7 Reporting Requirements (continued)

5.7.2 Special Reports (continued)

1. The scope of inspections performed on each SG,
 2. Active degradation mechanisms found,
 3. Nondestructive examination techniques utilized for each degradation mechanism,
 4. Location, orientation (if linear), and measured sizes (if available) of service induced indications,
 5. Number of tubes plugged or repaired during the inspection outage for each active degradation mechanism,
 6. Total number and percentage of tubes plugged or repaired to date,
 7. The results of condition monitoring, including the results of tube pulls and in-situ testing,
 8. The effective plugging percentage for all plugging and tube repairs in each SG, and
 9. Repair method utilized and the number of tubes repaired by each repair method.
-

- (3) SCE, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;
 - (4) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear materials as sealed neutron sources for reactor startup, sealed sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
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- (1) Maximum Power Level

Southern California Edison Company (SCE) is authorized to operate the facility at reactor core power levels not in excess of full power (3438 megawatts thermal).
 - (2) Technical Specifications

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(continued)

1.1 Definitions

ENGINEERED SAFETY
FEATURE (ESF) RESPONSE
TIME (Continued)

measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC.

LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) leakoff), that is captured and conducted to collection systems or a sump or collecting tank;
2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; or
3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE).

b. Unidentified LEAKAGE

All LEAKAGE that is not identified LEAKAGE.

c. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

MODE

A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.

(continued)

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.13 RCS Operational LEAKAGE

LC0 3.4.13 RCS operational LEAKAGE shall be limited to:

- a. No pressure boundary LEAKAGE;
- b. 1 gpm unidentified LEAKAGE;
- c. 10 gpm identified LEAKAGE; and
- d. 150 gallons per day primary to secondary LEAKAGE through any one Steam Generator (SG).

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. RCS Operational LEAKAGE not within limits for reasons other than pressure boundary LEAKAGE or primary to secondary LEAKAGE.	A.1 Reduce LEAKAGE to within limits.	4 hours
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> Pressure boundary LEAKAGE exists. <u>OR</u> Primary to secondary LEAKAGE not within limit.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.13.1	<p>-----NOTES-----</p> <ol style="list-style-type: none"> Not required to be performed in MODE 3 or 4 until 12 hours of steady state operation. Not applicable to primary to secondary LEAKAGE. <p>-----</p> <p>Perform RCS water inventory balance.</p>	<p>-----NOTE-----</p> <p>Only required to be performed during steady state operation. If a transient evolution is occurring 72 hours from the last water inventory balance, then a water inventory balance shall be performed within 120 hours of the last water inventory balance</p> <p>-----</p> <p>72 hours</p>
	<p>-----NOTE-----</p> <p>Not required to be performed until 12 hours after establishment of steady state operation.</p> <p>-----</p>	
SR 3.4.13.2	Verify primary to secondary LEAKAGE is ≤ 150 gallons per day through any one SG.	72 hours

3.4 REACTOR COOLANT SYSTEM (RCS)

3.4.17 Steam Generator (SG) Tube Integrity

LC0 3.4.17 SG tube integrity shall be maintained.

AND

All SG tubes satisfying the tube repair criteria shall be plugged or repaired in accordance with the Steam Generator Program.

APPLICABILITY: MODES 1, 2, 3, and 4.

ACTIONS

-----NOTE-----
Separate Condition entry is allowed for each SG tube.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more SG tubes satisfying the tube repair criteria and not plugged or repaired in accordance with the Steam Generator Program.	A.1 Verify tube integrity of the affected tube(s) is maintained until the next refueling outage or SG tube inspection.	7 days
	<u>AND</u> A.2 Plug or repair the affected tube(s) in accordance with the Steam Generator Program.	Prior to entering MODE 4 following the next refueling outage or SG tube inspection
B. Required Action and associated Completion Time of Condition A not met. <u>OR</u> SG tube integrity not maintained.	B.1 Be in MODE 3.	6 hours
	<u>AND</u> B.2 Be in MODE 5.	36 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
SR 3.4.17.1	Verify SG tube integrity in accordance with the Steam Generator Program.	In accordance with the Steam Generator Program
SR 3.4.17.2	Verify that each inspected SG tube that satisfies the tube repair criteria is plugged or repaired in accordance with the Steam Generator Program.	Prior to entering MODE 4 following a SG tube inspection

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.8 Primary Coolant Sources Outside Containment Program (continued)

system (post-accident sampling return piping only until such time as a modification eliminates the post-accident piping as a potential leakage path). The program shall include the following:

- a. Preventive maintenance and periodic visual inspection requirements; and
- b. Integrated leak test requirements for each system at refueling cycle intervals or less.

5.5.2.9 Pre-Stressed Concrete Containment Tendon Surveillance Program

This program provides controls for monitoring any tendon degradation in pre-stressed concrete containment, including effectiveness of its corrosion protection medium, to ensure containment structural integrity. Program itself is relocated to the LCS.

5.5.2.10 Inservice Inspection and Testing Program

This program provides controls for inservice inspection of ASME Code Class 1, 2, and 3 components and Code Class CC and MC components including applicable supports. The program provides controls for inservice testing of ASME Code Class 1, 2, and 3 components. Program itself is located in the LCS.

5.5.2.11 Steam Generator (SG) Program

A Steam Generator Program shall be established and implemented to ensure that SG tube integrity is maintained. In addition, the Steam Generator Program shall include the following provisions:

- a. Provisions for condition monitoring assessments. Condition monitoring assessment means an evaluation of the "as found" condition of the tubing with respect to the performance criteria for structural integrity and accident induced leakage. The "as found" condition refers to the condition of the tubing during an SG inspection outage, as determined from the inservice inspection results or by other means, prior to the plugging or repair of tubes. Condition monitoring assessments shall be conducted during each outage during which the SG tubes are inspected, plugged, or repaired to confirm that the performance criteria are being met.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

- b. Performance criteria for SG tube integrity. SG tube integrity shall be maintained by meeting the performance criteria for tube structural integrity, accident induced leakage, and operational LEAKAGE.
 - 1. Structural integrity performance criterion: All in-service steam generator tubes shall retain structural integrity over the full range of normal operating conditions (including startup, operation in the power range, hot standby, and cool down and all anticipated transients included in the design specification) and design basis accidents. This includes retaining a safety factor of 3.0 against burst under normal steady state full power operation primary-to-secondary pressure differential and a safety factor of 1.4 against burst applied to the design basis accident primary-to-secondary pressure differentials. Apart from the above requirements, additional loading conditions associated with the design basis accidents, or combination of accidents in accordance with the design and licensing basis, shall also be evaluated to determine if the associated loads contribute significantly to burst or collapse. In the assessment of tube integrity, those loads that do significantly affect burst or collapse shall be determined and assessed in combination with the loads due to pressure with a safety factor of 1.2 on the combined primary loads and 1.0 on axial secondary loads.
 - 2. Accident induced leakage performance criterion: The primary to secondary accident induced leakage rate for any design basis accident, other than a SG tube rupture, shall not exceed the leakage rate assumed in the accident analysis in terms of total leakage rate for all SGs and leakage rate for an individual SG. Leakage is not to exceed 0.5 gpm per SG and 1 gpm through both SGs.
 - 3. The operational LEAKAGE performance criterion is specified in LCO 3.4.13, "RCS Operational LEAKAGE."

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

- c. Provisions for SG tube repair criteria. The non-sleeved region of a tube found by inservice inspection to contain flaws with a depth equal to or exceeding 44% of the nominal tube wall thickness shall be plugged or repaired except if the flaws are permitted to remain in service through application of an alternate tube repair criteria discussed below.

Tubes shall be plugged if the sleeved region of a tube is found by inservice inspection to contain flaws in the (a) sleeve or (b) pressure boundary portion of the original tube wall in the sleeve tube assembly (i.e., the sleeve-to-tube joint).

- d. Provisions for SG tube inspections. Periodic SG tube inspections shall be performed. The number and portions of the tubes inspected and methods of inspection shall be performed with the objective of detecting flaws of any type (e.g., volumetric flaws, axial and circumferential cracks) that may be present along the length of the tube, from the tube-to-tubesheet weld at the tube inlet to the tube-to-tubesheet weld at the tube outlet, and that may satisfy the applicable tube repair criteria. The tube-to-tubesheet weld is not part of the tube. In addition to meeting the requirements of d.1, d.2, d.3, and d.4 below, the inspection scope, inspection methods, and inspection intervals shall be such as to ensure that SG tube integrity is maintained until the next SG inspection. An assessment of degradation shall be performed to determine the type and location of flaws to which the tubes may be susceptible and, based on this assessment, to determine which inspection methods need to be employed and at what locations.

1. Inspect 100% of the tubes in each SG during the first refueling outage following SG replacement.
2. Inspect 100% of the tubes at sequential periods of 60 effective full power months. The first sequential period shall be considered to begin after the first inservice inspection of the SGs. No SG shall operate for more than 24 effective full power months or one refueling outage (whichever is less) without being inspected.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.11 Steam Generator (SG) Program (continued)

3. If crack indications are found in any SG tube, then the next inspection for each SG for the degradation mechanism that caused the crack indication shall not exceed 24 effective full power months or one refueling outage (whichever is less). If definitive information, such as from examination of a pulled tube, diagnostic non-destructive testing, or engineering evaluation indicates that a crack-like indication is not associated with a crack(s), then the indication need not be treated as a crack.
 4. All sleeves shall be inspected with eddy current prior to initial operation. This includes pressure retaining portions of the parent tube in contact with the sleeve, the sleeve-to-tube weld and the pressure retaining portion of the sleeve.
- e. Provisions for monitoring operational primary to secondary LEAKAGE.
- f. Provisions for SG tube repair methods. Steam generator tube repair methods shall provide the means to re-establish the RCS pressure boundary integrity of SG tubes without removing the tube from service. For the purposes of these Specifications, tube plugging is not a repair. All acceptable tube repair methods are listed below.
1. TIG welded sleeving with heat treatment, as described in ABB/CE Topical Report, CEN-630-P, Rev. 2, is currently approved by the NRC.

Tube repair can be performed on certain tubes that have been previously plugged as a corrective or preventive measure. A tube inspection of the entire length of the tube shall be performed on a previously plugged tube prior to returning the tube to service.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.5.2.12 Ventilation Filter Testing Program (VFTP)

This Program establishes the required testing of the Engineered Safety Feature filter ventilation systems, "Control Room Emergency Air Cleanup System" and "Fuel Handling Building Post-accident Cleanup Filter System." The frequency of testing shall be in accordance with Regulatory Guide 1.52, Revision 2. As a minimum the VFTP program shall include the following:

- a. Inplace testing of the high efficiency particulate air (HEPA) filters to demonstrate acceptable penetration and system bypass when tested at the appropriate system flowrate in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 (see Note 1); and
- b. Inplace testing of the charcoal adsorber to demonstrate acceptable penetration and system bypass when tested at the appropriate system flowrate in accordance with Regulatory Guide 1.52, Revision 2, and ANSI N510-1975 (see Note 1); and
- c. Laboratory testing of charcoal adsorber samples obtained in accordance with Regulatory Guide 1.52, Revision 2 and tested per the methodology of ASTM D3803-1989 at 30°C and 70% relative humidity to show acceptable methyl iodide penetration; and
- d. Testing to demonstrate the pressure drop across the combined HEPA filters, the prefilters, and the charcoal adsorbers, when tested at the appropriate system flowrate.

Note 1: Sample and injection points shall be qualified per ANSI N510-1975 unless manifolds have been qualified per ASME N510-1989. HEPA testing will be conducted with DOP aerosol or suitable alternate.

(continued)

5.5 Procedures, Programs, and Manuals (continued)

5.2.12 Ventilation Filter Testing Program (VFTP) (continued)

The provisions of Technical Specification Surveillance Requirement 3.0.2 and Technical Specification Surveillance Requirement 3.0.3 are applicable to the VFTP test frequencies.

5.5.2.13 Diesel Fuel Oil Testing Program

This program implements required testing of both new fuel oil and stored fuel oil. The program shall include sampling and testing requirements, and acceptance criteria, all in accordance with applicable ASTM standards. The purpose of the program is to establish the following:

- a. Acceptability of new fuel oil use prior to addition to storage tanks by determining that the fuel oil has:
 1. an API gravity or an absolute specific gravity within limits,
 2. a flash point and kinematic viscosity within limits for ASTM 2D fuel oil, and
 3. a water and sediment content within limits.
- b. Other properties for ASTM 2D fuel oil are within limits within 31 days following sampling and addition to the storage tanks, with exceptions noted in the Bases for Surveillance Requirement 3.8.3.3; and,
- c. Total particulate concentration of fuel oil is ≤ 10 mg/l when tested every 92 days in accordance with ASTM D-2276, Method A.

5.5.2.14 Deleted

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5.5 Procedures, Programs, and Manuals (continued)

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5.5 Procedures, Programs, and Manuals (continued)

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5.7 Reporting Requirements (continued)

5.7.2 Special Reports

Special Reports may be required covering inspection, test, and maintenance activities. These special reports are determined on an individual basis for each unit and their preparation and submittal are designated in the Technical Specifications.

Special Reports shall be submitted to the U. S. Nuclear Regulatory Commission, Attention: Document Control Desk, Washington, D. C. 20555, with a copy to the Regional Administrator of the Regional Office of the NRC, in accordance with 10 CFR 50.4 within the time period specified for each report.

The following Special Reports shall be submitted:

- a. When a pre-planned alternate method of monitoring post-accident instrumentation functions is required by Condition B or Condition G of LCO 3.3.11, a report shall be submitted within 30 days from the time the action is required. The report shall outline the action taken, the cause of the inoperability, and the plans and schedule for restoring the instrumentation channels of the function to OPERABLE status.
- b. Any abnormal degradation of the containment structure detected during the tests required by the Pre-Stressed Concrete Containment Tendon Surveillance Program shall be reported to the NRC within 30 days. The report shall include a description of the tendon condition, the condition of the concrete (especially at tendon anchorages), the inspection procedures, the tolerances on cracking, and the corrective action taken.
- c. A report shall be submitted within 180 days after the initial entry into MODE 4 following completion of an inspection performed in accordance with the Specification 5.5.2.11, Steam Generator (SG) Program. The report shall include:

(continued)

5.7 Reporting Requirements (continued)

5.7.2 Special Reports (continued)

1. The scope of inspections performed on each SG,
 2. Active degradation mechanisms found,
 3. Nondestructive examination techniques utilized for each degradation mechanism,
 4. Location, orientation (if linear), and measured sizes (if available) of service induced indications,
 5. Number of tubes plugged or repaired during the inspection outage for each active degradation mechanism,
 6. Total number and percentage of tubes plugged or repaired to date,
 7. The results of condition monitoring, including the results of tube pulls and in-situ testing,
 8. The effective plugging percentage for all plugging and tube repairs in each SG, and
 9. Repair method utilized and the number of tubes repaired by each repair method.
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