VOLUME 18

CNP UNITS 1 AND 2
IMPROVED TECHNICAL SPECIFICATIONS CONVERSION

UNIT 2 CTS MARKUP PAGES IN CTS ORDER

Revision 0

ITS

A.1

(s) Deleted by Amendment No. 261

(t) Deleted by Amendment 63

(u) Deleted by Amendment No. 261

5.5.8 (v) Secondary Water Chemistry Monitoring Program

The licensee shall implement a secondary water chemistry monitoring program to inhibit steam generator tube degradation. This program shall be described in the station chemistry manual and shall include: L.6

5.5.8.a 1. Identification of a sampling schedule for the critical parameters and control points for these parameters;

5.5.8.b 2. Identification of the procedures used to measure the values of the critical parameters;

5.5.8.c 3. Identification of process sampling points;

5.5.8.d 4. Procedure for the recording and management of data;

5.5.8.e 5. Procedures defining corrective actions for off control point chemistry conditions; and

5.5.8.f 6. A procedure identifying (a) the authority responsible for the interpretation of the data, and (b) the sequence and timing of administrative events required to initiate corrective actions.

(w) Deleted by Amendment No. 261

(x) Deleted by Amendment No. 261

(y) Deleted by Amendment No. 261

(z) The 72-hour allowed outage time of Technical Specification 3.8.1.1 Action "b" which was entered at 0923, on December 7, 2003, may be extended one time by an additional 72 hours to complete repair and testing of the 2 AB diesel generator.

D. Physical Protection

The licensee shall fully implement and maintain in effect all provisions of the Commission-approved physical security, guard training and qualification, and safeguards contingency plans including amendments made pursuant to provisions of the Miscellaneous Amendments and Search Requirements revisions to 10 CFR 73.55 (51 FR 27817 and 27822) and to the authority of 10 CFR 50.90 and 10 CFR 50.54(p). The plans, which contain Safeguards Information protected under 10 CFR 73.21, are entitled: "Donald C. Cook Nuclear Plant Security Plan," with revisions submitted

ITS 5.5

A.1

ITS

-6-

through July 21, 1988; "Donald C. Cook Nuclear Plant Training and Qualification Plan," with revisions submitted through December 19, 1986; and "Donald C. Cook Nuclear Plant Safeguards Contingency Plan," with revisions submitted through June 10, 1988. Changes made in accordance with 10 CFR 73.55 shall be implemented in accordance with the schedule set forth therein.

M.1

E. Deleted by Amendment No. 63

F. In all places of this license, the reference to the Indiana and Michigan Electric Company is amended to read Indiana Michigan Power Company.

Add proposed Systems list

5.5.2 G. System Integrity

The licensee shall implement a program to reduce leakage from systems outside containment that would or could contain highly radioactive fluids during a serious transient or accident to as low as practical levels. This program shall include the following:

24 months

L.1

1. Provisions establishing preventive maintenance and periodic visual inspection requirements, and

2. Integrated leak test requirements for each system at a frequency ~~not to exceed refueling cycle intervals~~.

The provisions of SR 3.0.2 are applicable.

~~H. Iodine Monitoring~~

~~The licensee shall implement a program which will ensure the capability to accurately determine the airborne iodine concentration in vital areas under accident conditions. This program shall include the following:~~

~~1. Training of personnel,~~

~~2. Procedures for monitoring, and~~

~~3. Provisions for maintenance of sampling and analysis equipment.~~

LA.2

I. Deleted by Amendment No. 261

(1) Deleted by Amendment No. 261

(2) Deleted by Amendment No. 261

J. The licensee is authorized to use digital signal processing instrumentation in the reactor protection system.

Amendment No. 261

ITS Chapter 1.0

A.1

ITS

1.0 USE AND APPLICATION

A.1

1

1.0 DEFINITIONS

1.1 DEFINED TERMS NOTE:

A.1

1.1 The DEFINED TERMS of this section appear in capitalized type and are applicable throughout these Technical Specifications. and Bases

THERMAL POWER

1.2 THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

RATED THERMAL POWER (RTP)

RTP

A.1

1.3 RATED THERMAL POWER shall be a total reactor core heat transfer rate to the reactor coolant of 3468 MWt.

OPERATIONAL MODE

A.1

1.4 An OPERATIONAL MODE shall correspond to any one inclusive combination of core reactivity condition, power level and average reactor coolant temperature specified in Table 1.1. with fuel in the reactor vessel

moved from Table 1.1

A.2

, INSERT 1 A.1 -1

ACTION S

A.1

1.5 ACTION shall be those additional requirements specified as corollary statements to each principle specification and shall be part of the specifications.

INSERT 2

OPERABLE - OPERABILITY

A.3

, safety

1.6 A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s). Implicit in this definition shall be the assumption that all necessary attendant instrumentation, controls, normal and emergency electrical power sources, cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its function(s) are also capable of performing their related support function(s).

and when

and

A.1

, , and specified safety or

A.4

A.3

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ITS Chapter 1.0

A.2

INSERT 1

, and reactor vessel head closure bolt tensioning

A.1

INSERT 2

that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times

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ITS Chapter 1.0

ITS

A.1

DEFINITIONS

~~REPORTABLE EVENT~~

~~1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.~~

A.5

~~CONTAINMENT INTEGRITY~~

~~1.8 CONTAINMENT INTEGRITY shall exist when:~~

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

See ITS 3.6.1

1.8.2 All equipment hatches are closed and sealed,

See ITS 3.6.1

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,

See ITS 3.6.2

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and

See ITS 3.6.1

1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

See ITS 3.6.1

1.1 CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

that

in

means of

INSERT 3

,

A.1

A.6

A.1

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation ~~by observation~~. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

,

,

to

A.1

A.1

A.6

INSERT 3

all devices in the channel required for channel OPERABILITY. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an inplace qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel

Attachment 1, Volume 18, Rev. 0, Page 7 of 463

ITS 3.6.1

A.1

ITS

DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

See ITS Chapter 1.0

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

LA.1

1.8.2 All equipment hatches are closed and sealed

L.2

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,

See ITS 3.6.2

SR 3.6.1.1 1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and

1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

LA.1

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

See ITS Chapter 1.0

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

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ITS 3.6.2

A.1

ITS

DEFINITIONS

REPORTABLE EVENT

1.7 A REPORTABLE EVENT shall be any of those conditions specified in 10 CFR 50.73.

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

See ITS Chapter 1.0

1.8.1 All penetrations required to be closed during accident conditions are either:

a. Capable of being closed by an OPERABLE containment automatic isolation valve system, or

b. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1.

See ITS 3.6.1

1.8.2 All equipment hatches are closed and sealed,

LCO 3.6.2

1.8.3 Each air lock is in compliance with the requirements of Specification 3.6.1.3,

1.8.4 The containment leakage rates are within the limits of Specification 3.6.1.2, and

1.8.5 The sealing mechanism associated with each penetration (e.g., welds, bellows or O-rings) is OPERABLE.

CHANNEL CALIBRATION

1.9 A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds with the necessary range and accuracy to known values of the parameter which the channel monitors. The CHANNEL CALIBRATION shall encompass the entire channel including the sensor and alarm and/or trip functions, and shall include the CHANNEL FUNCTIONAL TEST. The CHANNEL CALIBRATION may be performed by any series of sequential, overlapping or total channel steps such that the entire channel is calibrated.

CHANNEL CHECK

1.10 A CHANNEL CHECK shall be the qualitative assessment of channel behavior during operation by observation. This determination shall include, where possible, comparison of the channel indication and/or status with other indications and/or status derived from independent instrument channels measuring the same parameter.

See ITS Chapter 1.0

ITS Chapter 1.0

ITS

A.1

DEFINITIONS

1.1

OPERATIONAL (COT) COT L.1 A.1 or actual

CHANNEL FUNCTIONAL TEST

1.11 A CHANNEL FUNCTIONAL TEST shall be:

a. Analog channels - the injection of a simulated signal into the channel as close to the primary sensor as practicable to verify OPERABILITY including alarm and/or trip functions. INSERT 4 A.7

b. Bistable channels - the injection of a simulated signal into the channel sensor to verify OPERABILITY including alarm and/or trip functions. A.18

CORE ALTERATION

INSERT 5 L.2 A.8

1.12 CORE ALTERATION shall be the movement or manipulation of any component within the reactor pressure vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe conservative position.

S A.1

SHUTDOWN MARGIN (SDM) SDM control (RCCAs) A.1

: a.

1.13 SHUTDOWN MARGIN shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming all full length rod cluster assemblies (shutdown and control) are fully inserted except for the single rod cluster assembly of highest reactivity worth which is assumed to be fully withdrawn. RCCA

, INSERT 6 A.9

LEAKAGE a.

IDENTIFIED LEAKAGE A.10

1.14 IDENTIFIED LEAKAGE shall be:

that from A.1 is

1 a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured and conducted to a sump or collecting tank, or

collection systems or S INSERT 7 A.10

2 b. 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 A.1

(RCS) (SG)

3 c. Reactor Coolant System leakage through a steam generator to the Secondary System.

;

A.7 INSERT 4

of all devices in the channel required for channel OPERABILITY. The COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy. The COT may be performed by means of any series of sequential, overlapping, or total channel steps.

L.2 INSERT 5

fuel, sources, or reactivity control components,

A.9 INSERT 6

With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM; and

b. In MODES 1 and 2, the fuel and moderator temperatures are changed to the nominal zero power design level.

A.10 INSERT 7

(except reactor coolant pump (RCP) seal water injection or leakoff),

A.1

ITS

DEFINITIONS

A.10

1.1 b. UNIDENTIFIED LEAKAGE

INSERT 8

All

1.15 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE.

A.1

; and

A.10

c. PRESSURE BOUNDARY LEAKAGE

SG

1.16 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in a Reactor Coolant System component body, pipe wall, or vessel wall.

, n RCS

A.1

CONTROLLED LEAKAGE

1.17 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

A.10

(QPTR)

QUADRANT POWER TILT RATIO

QPTR

A.1

1.18 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average.

See ITS 3.2.4

DOSE EQUIVALENT I-131

microcuries

A.1

that

1.19 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (μCi/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites," or in NRC Regulatory Guide 1.109, Rev. 1, October 1977.

A.1

INSERT 8a AEC, 1962, those listed in Table E-7 of , NRC,

L.4

ITS Chapter 1.0

A.10 INSERT 8

(except RCP seal water injection or leakoff) that

L.4 INSERT 8a

, or those listed in ICRP 30, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity."

ITS 3.2.4

A.1

ITS

DEFINITIONS

UNIDENTIFIED LEAKAGE

1.15 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE.

PRESSURE BOUNDARY LEAKAGE

1.16 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall.

CONTROLLED LEAKAGE

1.17 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals.

See ITS Chapter 1.0

QUADRANT POWER TILT RATIO

SR 3.2.4.1 Note 1

1.18 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average and THERMAL POWER ≤ 75% RTP.

A.4

DOSE EQUIVALENT I-131

1.19 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (μCi/gram) which alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, "Calculation of Distance Factors for Power and Test Reactor Sites," or in NRC Regulatory Guide 1.109 Rev. 1, October 1977.

See ITS Chapter 1.0

A.1

ITS

DEFINITIONS

1.1

STAGGERED TEST BASIS

1.20 A STAGGERED TEST BASIS shall consist of: INSERT 9

~~a. A test schedule for n systems, subsystems, trains or other designated components obtained by dividing the specified test interval into n equal subintervals,~~

~~b. The testing of one system, subsystem, train or other designated component at the begining of each subinterval.~~ A.11

~~FREQUENCY NOTATION~~

~~1.21 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.2.~~ A.12

REACTOR TRIP SYSTEM (RTS) RESPONSE TIME

1.22 The ~~REACTOR TRIP SYSTEM~~ RTS RESPONSE TIME shall be ~~the~~ that time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage. INSERT 10 A.13 L.3

ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME

1.23 The ~~ENGINEERED SAFETY FEATURE~~ ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ESF actuation setpoint at the channel sensor until the ESF equipment is capable of performing its safety function (i.e., the valves travel to their required positions, pump discharge pressures reach their required values, etc.). Times shall include diesel generator starting and sequence loading delays, where applicable. INSERT 11 A.1 A.13 L.3

AXIAL FLUX DIFFERENCE (AFD)

1.24 ~~AXIAL FLUX DIFFERENCE~~ AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector. A.1

D. C. COOK - UNIT 2 1-5

A.11 INSERT 9

the testing of one of the systems, subsystems, channels, or other designated components during the interval specified by the Surveillance Frequency, so that all systems, subsystems, channels, or other designated components are tested during *n* Surveillance Frequency intervals, where *n* is the total number of systems, subsystems, channels, or other designated components in the associated function.

INSERT 10

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of 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. A.13 L.3

INSERT 11

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of 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. A.13 L.3

A.1

ITS

DEFINITIONS

1.1 PHYSICS TESTS

These tests are:

, Initial Tests and Operation,

U

1.25 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 13.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

. a. b. c. ; ; Nuclear Regulatory

A.1

E - AVERAGE DISINTEGRATION ENERGY

1.26 E shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

>

A.1

~~SOURCE CHECK~~

~~1.27 A SOURCE CHECK shall be the qualitative assessment of Channel response when the Channel sensor is exposed to a radioactive source.~~

A.5

PROCESS CONTROL PROGRAM (PCP)

1.28 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.

See CTS 6.0

CTS 6.0

DEFINITIONS

PHYSICS TESTS

1.25 PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation and 1) described in Chapter 13.0 of the FSAR, 2) authorized under the provisions of 10 CFR 50.59, or 3) otherwise approved by the Commission.

See ITS Chapter 1.0

$\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

1.26 $\bar{E}$ shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives greater than 15 minutes, making up at least 95% of the total non-iodine activity in the coolant.

SOURCE CHECK

1.27 A SOURCE CHECK shall be the qualitative assessment of Channel response when the Channel sensor is exposed to a radioactive source.

~~PROCESS CONTROL PROGRAM (PCP)~~

~~1.28 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, tests, and determinations to be made to ensure that processing and packaging of solid radioactive wastes based on demonstrated processing of actual or simulated wet solid wastes will be accomplished in such a way as to assure compliance with 10 CFR Parts 20, 61, and 71, State regulations, burial ground requirements, and other requirements governing the disposal of solid radioactive waste.~~

LA.4

ITS Chapter 1.0

A.1

ITS

DEFINITIONS

1/29 Deleted.

A.1

OFFSITE DOSE CALCULATION MANUAL (ODCM)

See ITS 5.5

1.30 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Environmental Radiological Monitoring Program. The ODCM shall contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.6 and 6.9.1.7.

~~GASEOUS RADWASTE TREATMENT SYSTEM~~

~~1.31 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system off-gases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.~~

A.5

~~VENTILATION EXHAUST TREATMENT SYSTEM~~

~~1.32 A VENTILATION EXHAUST TREATMENT SYSTEM is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal absorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.~~

A.5

~~PURGE-PURGING~~

~~1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.~~

A.5

~~VENTING~~

~~1.34 VENTING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.~~

A.5

ITS 5.5

A.1

ITS

DEFINITIONS

1.29 Deleted.

5.5.1 OFFSITE DOSE CALCULATION MANUAL (ODCM)

5.5.1.a 1.30 The OFFSITE DOSE CALCULATION MANUAL (ODCM) shall contain the methodology and parameters used in the calculation of offsite doses resulting from radioactive gaseous and liquid effluents, in the calculation of gaseous and liquid effluent monitoring alarm/trip setpoints, and in the conduct of the Environmental Radiological Monitoring Program. The ODCM

5.5.1.b shall contain (1) the Radioactive Effluent Controls and Radiological Environmental Monitoring Programs required by Section 6.8.4 and (2) descriptions of the information that should be included in the Annual Radiological Environmental Operating and Annual Radioactive Effluent Release Reports required by Specifications 6.9.1.6 and 6.9.1.7.

GASEOUS RADWASTE TREATMENT SYSTEM

1.31 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system off-gases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.

VENTILATION EXHAUST TREATMENT SYSTEM

1.32 A VENTILATION EXHAUST TREATMENT SYSTEM is any system designed and installed to reduce gaseous radioiodine or radioactive material in particulate form in effluents by passing ventilation or vent exhaust gases through charcoal absorbers and/or HEPA filters for the purpose of removing iodines or particulates from the gaseous exhaust stream prior to the release to the environment. Such a system is not considered to have any effect on noble gas effluents. Engineered Safety Feature (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.

PURGE-PURGING

1.33 PURGE or PURGING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is required to purify the confinement.

VENTING

1.34 VENTING is the controlled process of discharging air or gas from a confinement to maintain temperature, pressure, humidity, concentration or other operating condition, in such a manner that replacement air or gas is not provided or required during VENTING. Vent, used in system names, does not imply a VENTING process.

See ITS Chapter 1.0

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ITS

A.1

1.0 DEFINITIONS

~~MEMBER(S) OF THE PUBLIC~~

~~1.35 MEMBER(S) OF THE PUBLIC shall include all persons who are not occupationally associated with the Plant. This category does not include employees of the utility, its contractors or its vendors. Also excluded from this category are persons who enter the site to service equipment or to make deliveries. This category does include persons who use portions of the site for recreational, occupational or other purposes not associated with the Plant.~~ A.5

~~SITE BOUNDARY~~

~~1.36 The SITE BOUNDARY shall be that line beyond which the land is not owned, leased or otherwise controlled by the licensee.~~ A.5

~~UNRESTRICTED AREA~~

~~1.37 An UNRESTRICTED AREA shall be any area at or beyond the SITE BOUNDARY to which access is not controlled by the licensee for purposes of protection of individuals from exposure to radiation and radioactive materials or any area within the site boundary used for residential quarters or industrial, commercial, institutional and/or recreational purposes.~~ A.5

~~ALLOWABLE POWER LEVEL (APL)~~

~~1.38 ALLOWABLE POWER LEVEL (APL) is that maximum calculated power level at which power distribution limits are satisfied.~~ A.5

CORE OPERATING LIMITS REPORT (COLR)

1.1 1.39 The COLR is the unit specific document that provides ~~core operating~~ cycle specific parameter limits for the current ~~operating~~ reload cycle. These cycle specific ~~core operating~~ parameter limits shall be determined for each reload cycle in accordance with Specification ~~6.9.1.11~~ 5.6.5. Unit operation within these ~~operating~~ limits is addressed in individual Specifications. A.1

TADOT

TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) INSERT 12 A.14

1.40 A ~~TRIP ACTUATING DEVICE OPERATIONAL TEST~~ TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of ~~alarm, interlock, and/or trip functions~~. The ~~TRIP ACTUATING DEVICE OPERATIONAL TEST~~ TADOT shall include adjustment, as necessary, of the trip actuating device ~~such~~ so that it actuates at the required setpoint within the ~~required~~ necessary accuracy. INSERT 13 A.1 A.14

INSERT 14 A.15

COOK NUCLEAR PLANT-UNIT 2 Page 1-8 AMENDMENT ~~82, 122, 137,~~ 233

A.14

INSERT 12

all devices in the channel required for trip actuating device OPERABILITY

A.14

INSERT 13

The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps.

A.15

INSERT 14

ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state required for OPERABILITY of a logic circuit and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
MASTER RELAY TEST	A MASTER RELAY TEST shall consist of energizing all master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. The MASTER RELAY TEST shall include a continuity check of each associated required slave relay. The MASTER RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps.
SLAVE RELAY TEST	A SLAVE RELAY TEST shall consist of energizing all slave relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required slave relay. The SLAVE RELAY TEST shall include a continuity check of associated required testable actuation devices. The SLAVE RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps.

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A.1

ITS

Table 1.1-1

TABLE 1.1

OPERATIONAL MODES

MODE	TITLE	REACTIVITY CONDITION, K_{eff}	% RATED THERMAL POWER* (a)	REACTOR AVERAGE COOLANT TEMPERATURE (°F)
1.	POWER OPERATION	≥ 0.99	> 5%	≥ 350°F NA
2.	STARTUP	≥ 0.99	≤ 5%	≥ 350°F NA
3.	HOT STANDBY	< 0.99	0 NA	≥ 350°F
4.	HOT SHUTDOWN (b)	< 0.99	0 NA	350°F > T_{avg} > 200°F
5.	COLD SHUTDOWN (b)	< 0.99	0 NA	≤ 200°F
6.	REFUELING** (c)	≤ 0.95 NA	0 NA	≤ 140°F NA

A.1 A.1 A.16 A.1 A.16 A.1 A.2 A.1 A.16 LA.1 A.2 A.2

(a) * Excluding decay heat.

(c) ** Reactor vessel head unbolted or removed and fuel in the vessel.

closure bolts less than fully tensioned

One or more

Moved to definition of MODE, page 18 of 35

(b) All reactor vessel head closure bolts fully tensioned.

A.1

ITS

1.0 DEFINITIONS

TABLE 1.2

FREQUENCY NOTATION

NOTATION	FREQUENCY
S	At least once per 12 hours
D	At least once per 24 hours
W	At least once per 7 days
M	At least once per 31 days
Q	At least once per 92 days
2 Months	At least once per 62 days
SA	At least once per 184 days
R	At least once per 549 days
S/U	Prior to each reactor start-up
P	Completed prior to each release
N.A.	Not Applicable

A.12

Add proposed ITS Sections
1.2 - Logical Connectors
1.3 - Completion Times
1.4 - Frequency

A.17

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A.1

ITS

2.0 SAFETY LIMITS ~~AND LIMITING SAFETY SYSTEM SETTINGS~~ A.1

2.1 SAFETY LIMITS

REACTOR CORE

2.1.1 2.1.1 The combination of THERMAL POWER, pressurizer pressure, and the highest operating loop coolant average temperature (T_{avg}) shall not exceed the limits shown in ~~Figure 2.1-1~~ ~~for 4 loop operation~~. A.2

the COLR

APPLICABILITY: MODES 1 and 2.

Add proposed SL 2.1.1.1 and SL 2.1.1.2 LA.1

ACTION:

2.2.1 Whenever the point defined by the combination of the highest operating loop average temperature and THERMAL POWER has exceeded the appropriate pressurizer pressure line, be in HOT STANDBY within 1 hour.

REACTOR COOLANT SYSTEM PRESSURE

2.1.2 2.1.2 The Reactor Coolant System pressure shall not exceed 2735 psig.

APPLICABILITY: MODES 1, 2, 3, 4 and 5.

ACTION:

MODES 1 and 2

2.2.2.1 Whenever the Reactor Coolant System pressure has exceeded 2735 psig, be in HOT STANDBY with the Reactor Coolant System pressure within its limit within 1 hour.

MODES 3, 4 and 5

2.2.2.2 Whenever the Reactor Coolant System pressure has exceeded 2735 psig, reduce the Reactor Coolant System pressure to within its limit within 5 minutes.

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A.1

ITS

DESIGN FLOW = 91.600 GPM/LOOP

DESCRIPTION OF SAFETY LIMITS

Pressure (psia)	Power (frac)	Tavg (°F)	Power (frac)	Tavg (°F)	Power (frac)	Tavg (°F)	Power (frac)	Tavg (°F)
1775	0.00	615.4	0.98	583.8	1.02	580.9	1.2	558.1
2000	0.00	631.8	0.86	605.8	0.96	597.5	1.2	568.5
2100	0.00	639.1	0.82	614.0	0.96	601.6	1.2	573.1
2250	0.00	649.2	0.72	628.6	0.98	603.2	1.2	580.4
2400	0.00	659.0	0.62	642.0	1.1	599.0	1.2	588.1

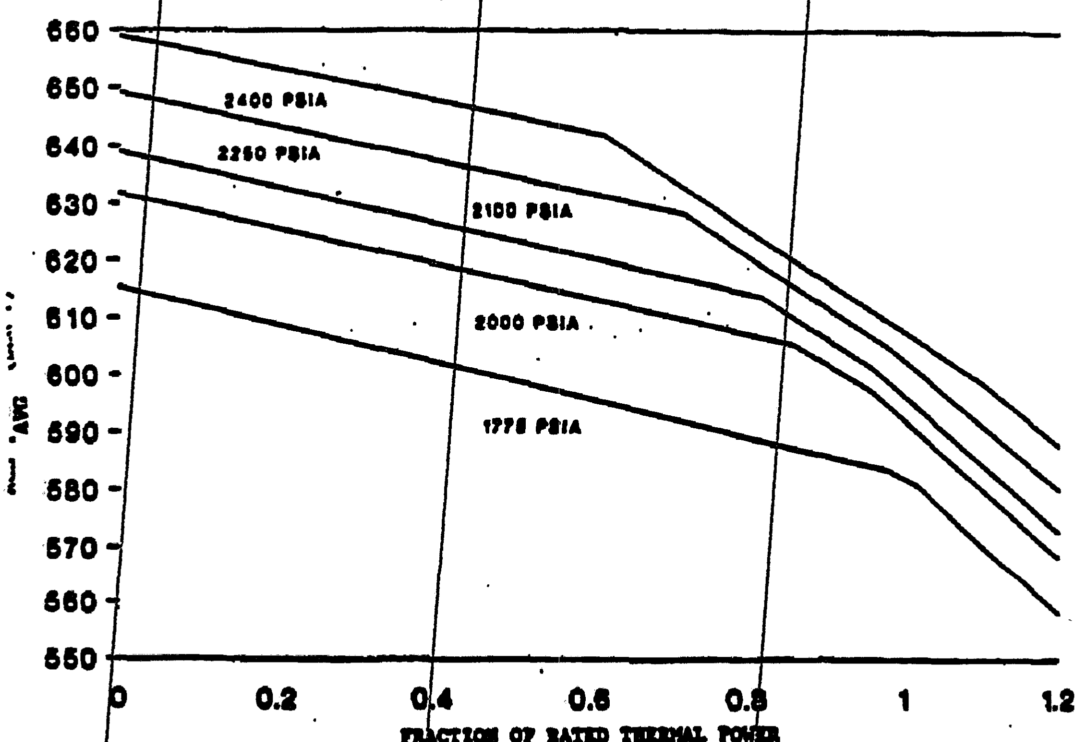

Figure 2.1-1 Reactor Core Safety Limits Four Loops in Operation

LA.1

COOK NUCLEAR PLANT - UNIT 2 2-2 AMENDMENT NO. 82, 197, 134

A.1

ITS

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A.1

ITS

2.2 LIMITING SAFETY SYSTEM SETTINGS

REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

2.2.1 The reactor trip system instrumentation setpoints shall be set consistent with the Trip Setpoint values shown in Table 2.2-1.

APPLICABILITY: As shown for each channel in Table 3.3-1.

See ITS 3.3.1

ACTION:

With a reactor trip system instrumentation setpoint less conservative than the value shown in the Allowable Values column of Table 2.2-1, declare the channel inoperable and apply the applicable ACTION statement requirement of Specification 3.3.1.1 until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

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ITS 3.3.1

ITS

SAFETY LIMITS AND LIMITING SAFETY SYSTEM SETTINGS

2.2 LIMITING SAFETY SYSTEM SETTINGS

REACTOR TRIP SYSTEM INSTRUMENTATION SETPOINTS

LCO 3.3.1 2.2.1 The reactor trip system instrumentation setpoints shall be set consistent with the ~~Trip Setpoint~~ Allowable Value values shown in Table 2.2-1. LA.10

APPLICABILITY: As shown for each channel in Table 3.3-1.

ACTION:

ACTION A With a reactor trip system instrumentation setpoint less conservative than the value shown in the Allowable Values column of Table 2.2-1, declare the channel inoperable and apply the applicable ACTION statement requirement of Specification 3.3.1.1 until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the ~~Trip Setpoint~~ Allowable Value value. LA.10

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ITS

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1. Manual Reactor Trip	Not Applicable	Not Applicable
2. Power Range, Neutron Flux	Low Setpoint - Less than or equal to 25% of RATED THERMAL POWER	Low Setpoint - Less than or equal to 26% of RATED THERMAL POWER
	High Setpoint - Less than or equal to 109% of RATED THERMAL POWER	High Setpoint - Less than or equal to 110% of RATED THERMAL POWER
3. Power Range, Neutron Flux, High Positive Rate	Less than or equal to 5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds	Less than or equal to 5.5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds
4. Power Range, Neutron Flux, High Negative Rate	Less than or equal to 5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds	Less than or equal to 5.5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds
5. Intermediate Range, Neutron Flux	Less than or equal to 25% of RATED THERMAL POWER	Less than or equal to 30% of RATED THERMAL POWER
6. Source Range, Neutron Flux	Less than or equal to 10^5 counts per second	Less than or equal to 1.3 x 10^5 counts per second
7. Overtemperature Delta T	See Note 1	See Note 3
8. Overpower Delta T	See Note 2	See Note 4
9. Pressurizer Pressure -- Low	Greater than or equal to 1950 psig	Greater than or equal to 1940 psig
10. Pressurizer Pressure -- High	Less than or equal to 2385 psig	Less than or equal to 2395 psig
11. Pressurizer Water Level -- High	Less than or equal to 92% of instrument span	Less than or equal to 93% of instrument span
12. Loss of Flow	Greater than or equal to 90% of design flow per loop*	Greater than or equal to 89.1% of design flow per loop*

* Design flow is 91,600 gpm per loop.

See ITS 3.3.1

COOK NUCLEAR PLANT - UNIT 2 2-5 AMENDMENT NO. 82, 134

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ITS 3.3.1

ITS

Table 3.3.1-1

TABLE 2.2-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.10

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
1	1. Manual Reactor Trip	Not Applicable	Not Applicable
2.a, 2.b	2. Power Range, Neutron Flux	Low Setpoint - Less than or equal to 25% of RATED THERMAL POWER	Low Setpoint - Less than or equal to 26% of RATED THERMAL POWER
		High Setpoint - Less than or equal to 109% of RATED THERMAL POWER	High Setpoint - Less than or equal to 110% of RATED THERMAL POWER
3.a	3. Power Range, Neutron Flux, High Positive Rate	Less than or equal to 5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds	Less than or equal to 5.5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds
3.b	4. Power Range, Neutron Flux, High Negative Rate	Less than or equal to 5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds	Less than or equal to 5.5% of RATED THERMAL POWER with a time constant greater than or equal to 2 seconds
4	5. Intermediate Range, Neutron Flux	Less than or equal to 25% of RATED THERMAL POWER	Less than or equal to 30% of RATED THERMAL POWER
5	6. Source Range, Neutron Flux	Less than or equal to 10^5 counts per second	Less than or equal to 1.3 x 10^5 counts per second
6, including Note 1	7. Overtemperature Delta T	See Note 1	See Note 3
7, including Note 2	8. Overpower Delta T	See Note 2	See Note 4
8.a	9. Pressurizer Pressure -- Low	Greater than or equal to 1950 psig	Greater than or equal to ~~1940~~ 1930 psig
8.b	10. Pressurizer Pressure -- High	Less than or equal to 2385 psig	Less than or equal to ~~2395~~ 2406 psig
9	11. Pressurizer Water Level -- High	Less than or equal to 92% of instrument span	Less than or equal to ~~93%~~ 93.3 ~~of instrument span~~
10	12. Loss of Flow	Greater than or equal to 90% of design flow per loop*	Greater than or equal to ~~89.1%~~ 89.6 ~~of design flow per loop*~~

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LA.11

~~* Design flow is 91,600 gpm per loop.~~

LA.10

LA.11

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ITS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
13. Steam Generator Water Level-Low-Low	Greater than or equal to 21% of narrow range instrument span - each steam generator	Greater than or equal to 19.2% of narrow range instrument span - each steam generator
14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	Less than or equal to 1.47 x 10^6 lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level greater than or equal to 25% of narrow range instrument span - each steam generator	Less than or equal to 1.56 x 10^6 lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level greater than or equal to 24% of narrow range instrument span - each steam generator
15. Undervoltage - Reactor Coolant Pumps	Greater than or equal to 2905 volts - each bus	Greater than or equal to 2870 volts - each bus
16. Underfrequency - Reactor Coolant Pumps	Greater than or equal to 57.5 Hz - each bus	Greater than or equal to 57.4 Hz - each bus
17. Turbine Trip		
A. Low Fluid Oil Pressure	Greater than or equal to 58 psig	Greater than or equal to 57 psig
B. Turbine Stop Valve Closure	Greater than or equal to 1% open	Greater than or equal to 1% open
18. Safety Injection Input from ESF	Not Applicable	Not Applicable
19. Reactor Coolant Pump Breaker Position Trip	Not Applicable	Not Applicable

See ITS 3.3.1

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ITS 3.3.1

ITS

TABLE 2.2-1 (Continued)

Table 3.3.1-1

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.10

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
14	13. Steam Generator Water Level-Low-Low	Greater than or equal to 21% of narrow range instrument span - each steam generator	Greater than or equal to ~~19.2%~~ 20.8 of narrow range instrument span - each steam generator
15	14. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	Less than or equal to 1.47 x 10^6 lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level greater than or equal to 25% of narrow range instrument span - each steam generator	Less than or equal to 1.56 x 10^6 lbs/hr of steam flow at RATED THERMAL POWER coincident with steam generator water level greater than or equal to ~~24%~~ 25.0 of narrow range instrument span - each steam generator
12	15. Undervoltage - Reactor Coolant Pumps	Greater than or equal to 2905 volts - each bus	Greater than or equal to 2870 volts - each bus
13	16. Underfrequency - Reactor Coolant Pumps	Greater than or equal to 57.5 Hz - each bus	Greater than or equal to ~~57.4~~ 57.02 Hz - each bus
	17. Turbine Trip		
16.a	A. Low Fluid Oil Pressure	Greater than or equal to 58 psig	Greater than or equal to 57 psig
16.b	B. Turbine Stop Valve Closure	Greater than or equal to 1% open	Greater than or equal to 1% open
17	18. Safety Injection Input from ESF	Not Applicable	Not Applicable
11	19. Reactor Coolant Pump Breaker Position Trip	Not Applicable	Not Applicable

M.17 LA.11 LA.11 M.17 L.19

A.1

ITS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION

Note 1:
Overtemperature $\Delta T \leq \Delta T_o\ [K_1 - K_2[(1 + \tau_1 S)/(1 + \tau_2 S)](T - T') + K_3(P - P') - f_1(\Delta I)]$

Where:	ΔT_o	= Indicated ΔT at RATED THERMAL POWER
	T	= Average temperature, °F
	T'	= Indicated T_{avg} at RATED THERMAL POWER less than or equal to 576.0 °F
	P	= Pressurizer Pressure, psig
	P'	= 2235 psig (indicated RCS nominal operating pressure)
	$\frac{1 + \tau_1 S}{1 + \tau_2 S}$	= The function generated by the lead-lag controller for T_{avg} dynamic compensation
	τ_1, τ_2	= Time constants utilized in the lead-lag controller for T_{avg}: τ_1 = 28 secs, τ_2 = 4 secs.
	S	= Laplace transform operator

See ITS 3.3.1

A.1

ITS 3.3.1

ITS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION

Table 3.3.1-1 Note 1

Note 1:
Overtemperature $\Delta T \leq \Delta T_o \; [K_1 - K_2[(1 + \tau_1 S)/(1 + \tau_2 S)](T - T') + K_3(P - P') - f_1(\Delta I)]$

Where: ΔT_o = Indicated ΔT at RATED THERMAL POWER

T = Average temperature, °F

T' = Indicated T_{avg} at RATED THERMAL POWER less than or equal to $\boxed{576.0}$ °F

P = Pressurizer Pressure, psig

P' = $\boxed{2235}$ psig (indicated RCS nominal operating pressure)

$\frac{1 + \tau_1 S}{1 + \tau_2 S}$ = The function generated by the lead-lag controller for T_{avg} dynamic compensation

τ_1, τ_2 = Time constants utilized in the lead-lag controller for T_{avg}; τ_1 = $\boxed{28}$ secs, τ_2 = $\boxed{4}$ secs.

S = Laplace transform operator

LA.8

LA.7

LA.8

A.1

ITS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION (Continued)

4 Loops in Operation

K1 = 1.09

K2 = 0.01331

K3 = 0.00038

and $f_1(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests such that:

See ITS 3.3.1

(i) for $q_t - q_b$ between -33 percent and +6 percent, $f_1(\Delta I)=0$ (where q_t and q_b are percent RATED THERMAL POWER in the top and bottom halves of the core respectively, and $q_t + q_b$ is total THERMAL POWER in percent of RATED THERMAL POWER).

(ii) for each percent that the magnitude of $(q_t - q_b)$ exceeds -33 percent, the ΔT trip setpoint shall be automatically reduced by 3.5 percent of its value at RATED THERMAL POWER.

(iii) For each percent that the magnitude of $(q_t - q_b)$ exceeds +6 percent, the ΔT trip setpoint shall be automatically reduced by 1.0 percent of its value at RATED THERMAL POWER.

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A.1

ITS 3.3.1

ITS

Table 3.3.1-1
Note 1

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATION (Continued)

4 Loops in Operation

K1 = 1.09

K2 = 0.01331

K3 = 0.00058

LA.8

and $f_1(\Delta I)$ is a function of the indicated difference between top and bottom detectors of the power-range nuclear ion chambers; with gains to be selected based on measured instrument response during plant startup tests such that:

LA.8

(i) for $q_t - q_b$ between -33 percent and +8 percent, $f_1(\Delta I)=0$ (where q_t and q_b are percent RATED THERMAL POWER in the top and bottom halves of the core respectively, and $q_t + q_b$ is total THERMAL POWER in percent of RATED THERMAL POWER).

LA.8

(ii) for each percent that the magnitude of $(q_t - q_b)$ exceeds -33 percent, the ΔT trip setpoint shall be automatically reduced by 3.3 percent of its value at RATED THERMAL POWER.

LA.8

(iii) For each percent that the magnitude of $(q_t - q_b)$ exceeds +8 percent, the ΔT trip setpoint shall be automatically reduced by 1.0 percent of its value at RATED THERMAL POWER.

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ITS

A.1

See ITS 3.3.1

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATIONS (Continued)

Note 2: Overpower $\Delta T \leq \Delta T_o \{K_4 - K_5[\tau_3 S/(1+\tau_3 S)]T - K_6[T-T''] - f_2(\Delta I)\}$

Where:

ΔT_o	= Indicated ΔT at rated power
T	= Average temperature, °F
T''	= Indicated T_{avg} at RATED THERMAL POWER less than or equal to 576.0 °F
K_4	= 1.08
K_5	= 0.02/°F for increasing average temperature and 0 for decreasing average temperature
K_6	= 0.00197 for T greater than T''; K_6 = 0 for T less than or equal to T''
$\tau_3 S/(1+\tau_3 S)$	= The function generated by the rate lag controller for T_{avg} dynamic compensation
τ_3	= Time constant utilized in the rate lag controller for T_{avg}; τ_3 = 10 secs.
S	= Laplace transform operator
$f_2(\Delta I)$	= 0.0

Note 3: The channel's maximum trip point shall not exceed its computed trip point by more than 1.3 percent ΔT span.

Note 4: The channel's maximum trip point shall not exceed its computed trip point by more than 3.0 percent ΔT span.

A.1

ITS 3.3.1

ITS

TABLE 2.2-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION TRIP SETPOINTS

NOTATIONS (Continued)

Table 3.3.1-1 Note 2

Note 2: Overpower $\Delta T \leq \Delta T_o \{K_4 - K_5[\tau_3 S/(1+\tau_3 S)]T - K_6[T-T^{\prime\prime}] - f_2(\Delta I)\}$

Where:

ΔT_o = Indicated ΔT at rated power

T = Average temperature, °F

$T^{\prime\prime}$ = Indicated T_{avg} at RATED THERMAL POWER less than or equal to $\boxed{576.0}$ °F (LA.8)

K_4 = $\boxed{1.08}$

K_5 = $\boxed{0.02}$/°F for increasing average temperature and $\boxed{0}$ for decreasing average temperature (LA.8)

K_6 = $\boxed{0.00197}$ for T greater than T"; K_6 = $\boxed{0}$ for T less than or equal to T"

$\tau_3 S/(1+\tau_3 S)$ = The function generated by the rate lag controller for T_{avg} dynamic compensation (LA.7)

τ_3 = Time constant utilized in the rate lag controller for T_{avg}; τ_3 = $\boxed{10}$ secs.

S = Laplace transform operator

$f_2(\Delta I)$ = $\boxed{0.0}$ (LA.8)

Table 3.3.1-1 Note 2

Note 3: The channel's maximum trip point shall not exceed its computed trip point by more than $\boxed{1.3}$ percent ΔT span. 0.012 (L.19)

Table 3.3.1-1 Note 2

Note 4: The channel's maximum trip point shall not exceed its computed trip point by more than $\boxed{3.0}$ percent ΔT span. 0.038 (M.17)

ITS Section 3.0

A.1

ITS

.0 (LCO)

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS A.1
3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION LCOs met

3.0.1 3.0.1 Limiting Conditions for Operation and ACTION requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for each specification, except as provided in Specification 3.0.6. A.2

LCO 3.0.2 and LCO 3.0.7 in the Applicability

3.0.2 3.0.2 Adherence to the requirements of the Limiting Condition for Operation and/or associated ACTION within the specified time interval shall constitute compliance with the specification, except as provided in Specification 3.0.6. In the event the Limiting Condition for Operation is restored prior to expiration of the specified time interval, completion of the ACTION statement is not required. INSERT 1 A.3

an LCO and S

3.0.3 3.0.3 When a Limiting Condition for Operation is not met except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the Specification does not apply by placing it, as applicable, in: A.4 A.5

INSERT 2

7 13 37

MODE 3 1. At least HOT STANDBY within the next 6 hours,
MODE 4 2. At least HOT SHUTDOWN within the following 6 hours, and
MODE 5 3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications. INSERT 3 A.6 A.1

this Specification

3.0.4 3.0.4 Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted. This provision shall not prevent passage through OPERATIONAL MODES as required to comply with ACTION statements. INSERT 4 A.7 L.1 L.2

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, within 2 hours action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply by placing it as applicable in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

This Specification is not applicable in MODES 5 or 6. See ITS 3.8.1

S

3.0.5 3.0.6 Equipment removed from service or declared inoperable to comply with ACTION requirements may be returned to service under administrative controls solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Specifications 3.0.1 and 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY. A.1 LCO A.8

INSERT 5 A.9

INSERT 6 A.10

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ITS Section 3.0

A.3

INSERT 1

Upon discovery of a failure to meet an LCO, the Required Actions of the associated Conditions shall be met, except as provided in LCO 3.0.5 and LCO 3.0.6.

If the LCO is met or is no longer applicable prior to expiration of the specified Completion Time(s), completion of the Required Action(s) is not required unless otherwise stated.

INSERT 2

are not met, an associated ACTION is not provided, or if directed by the associated ACTIONS, the unit shall be placed in a MODE or other specified condition in which the LCO is not applicable.

A.4

A.5

A.6

INSERT 3

in accordance with the LCO or ACTIONS, completion of the actions required by LCO 3.0.3 is not required.

LCO 3.0.3 is only applicable in MODES 1, 2, 3, and 4.

INSERT 4

When an LCO is not met, entry into a MODE or other specified condition in the Applicability shall not be made except when the associated ACTIONS to be entered permit continued operation in the MODE or other specified condition in the Applicability for an unlimited period of time. This Specification shall not prevent changes in MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

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L.2

Exceptions to this Specification are stated in the individual Specifications.

A.7

LCO 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4.

L.2

Insert Page 3/4 0-1a

A.9 **INSERT 5**

LCO 3.0.6 When a supported system LCO is not met solely due to a support system LCO not being met, the Conditions and Required Actions associated with this supported system are not required to be entered. Only the support system LCO ACTIONS are required to be entered. This is an exception to LCO 3.0.2 for the supported system. In this event, an evaluation shall be performed in accordance with Specification 5.5.13, "Safety Function Determination Program (SFDP)." If a loss of safety function is determined to exist by this program, the appropriate Conditions and Required Actions of the LCO in which the loss of safety function exists are required to be entered.

When a support system's Required Action directs a supported system to be declared inoperable or directs entry into Conditions and Required Actions for a supported system, the applicable Conditions and Required Actions shall be entered in accordance with LCO 3.0.2.

A.10 **INSERT 6**

LCO 3.0.7 Test Exception LCO 3.1.8, "PHYSICS TESTS Exceptions - MODE 2," allows specified Technical Specification (TS) requirements to be changed to permit performance of special tests and operations. Unless otherwise specified, all other TS requirements remain unchanged. Compliance with Test Exception LCOs is optional. When a Test Exception LCO is desired to be met but is not met, the ACTIONS of the Test Exception LCO shall be met. When a Test Exception LCO is not desired to be met, entry into a MODE or other specified condition in the Applicability shall be made in accordance with the other applicable Specifications.

ITS 3.8.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.0 APPLICABILITY

LIMITING CONDITION FOR OPERATION

3.0.1 Limiting Conditions for Operation and ACTION requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for each specification, except as provided in Specification 3.0.6.

3.0.2 Adherence to the requirements of the Limiting Condition for Operation and/or associated ACTION within the specified time interval shall constitute compliance with the specification, except as provided in Specification 3.0.6. In the event the Limiting Condition for Operation is restored prior to expiration of the specified time interval, completion of the ACTION statement is not required.

3.0.3 When a Limiting Condition for Operation is not met, except as provided in the associated ACTION requirements, within one hour action shall be initiated to place the unit in a MODE in which the Specification does not apply by placing it, as applicable, in:

1. At least HOT STANDBY within the next 6 hours,
2. At least HOT SHUTDOWN within the following 6 hours, and
3. At least COLD SHUTDOWN within the subsequent 24 hours.

Where corrective measures are completed that permit operation under the ACTION requirements, the ACTION may be taken in accordance with the specified time limits as measured from the time of failure to meet the Limiting Condition for Operation. Exceptions to these requirements are stated in the individual Specifications.

3.0.4 Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the conditions of the Limiting Condition for Operation are met without reliance on provisions contained in the ACTION statements unless otherwise excepted. This provision shall not prevent passage through OPERATIONAL MODES as required to comply with ACTION statements.

See ITS Section 3.0

Required Actions A.2, B.2, and C.1

3.0.5 When a system, subsystem, train, component or device is determined to be inoperable solely because its emergency power source is inoperable, or solely because its normal power source is inoperable, it may be considered OPERABLE for the purpose of satisfying the requirements of its applicable Limiting Condition for Operation, provided: (1) its corresponding normal or emergency power source is OPERABLE; and (2) all of its redundant system(s), subsystem(s), train(s), component(s) and device(s) are OPERABLE, or likewise satisfy the requirements of this specification. Unless both conditions (1) and (2) are satisfied, within ~~2 hours action shall be initiated to place the unit in a MODE in which the applicable Limiting Condition for Operation does not apply by placing it as applicable in:~~

L.17

24 hours for proposed Required Action A.2
4 hours for proposed Required Actions B.2
12 hours for proposed Required Action C.1

~~1. At least HOT STANDBY within the next 6 hours,~~
~~2. At least HOT SHUTDOWN within the following 6 hours, and~~
~~3. At least COLD SHUTDOWN within the subsequent 24 hours.~~

Declare required features inoperable.

L.17

~~This Specification is not applicable in MODES 5 or 6.~~

A.7

3.0.6 Equipment removed from service or declared inoperable to comply with ACTION requirements may be returned to service under administrative controls solely to perform testing required to demonstrate its OPERABILITY or the OPERABILITY of other equipment. This is an exception to Specifications 3.0.1 and 3.0.2 for the system returned to service under administrative control to perform the testing required to demonstrate OPERABILITY.

See ITS Section 3.0

A.1

ITS

.0 (SR)

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS — A.1
3/4.0 APPLICABILITY

SURVEILLANCE REQUIREMENTS

SRs met

SR 3.0.1 4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement. INSERT 7 — A.11

in the Applicability · the SR · LCOs,

SR 3.0.2 4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the specified surveillance interval. INSERT 8 — A.12, M.1, L.3

SR 3.0.1 4.0.3 Performance of a Surveillance Requirement within the specified time interval shall constitute compliance with OPERABILITY requirements for a Limiting Condition for Operation and associated ACTION statements unless otherwise required by the specification. — A.11

LCO

SR 3.0.3 If it is discovered that a surveillance was not performed within its specified surveillance interval, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is less. This delay period is permitted to allow performance of the surveillance. INSERT 9 — Frequency — A.1, L.4

greater

SR 3.0.3 If the surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION requirements must be met. — LCO, entered, is, Condition(s)

SR 3.0.3 When the surveillance is performed within the delay period and the surveillance criteria are not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION requirements must be met. — LCO, Condition(s) — A.1

SR 3.0.1 Surveillance requirements do not have to be performed on inoperable equipment. — A.11

INSERT 10

SR 3.0.4 4.0.4 Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified. INSERT 11 — met — A.1, A.13, L.2

LCO's · s · their specified Frequency

4.0.5 *Surveillance Requirements for inservice inspection and testing of ASME Code Class 1, 2, and 3 components shall be applicable as follows:*

a. Inservice inspection of ASME Code Class 1, 2, and 3 components and inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a. — See ITS 5.5

ITS Section 3.0

A.11

INSERT 7

Failure to meet a Surveillance, whether such failure is experienced during the performance of the Surveillance or between performances of the Surveillance, shall be failure to meet the LCO. Failure to perform a Surveillance within the specified Frequency shall be failure to meet the LCO except as provided in SR 3.0.3. Surveillances do not have to be performed on inoperable equipment or variables outside specified limits.

INSERT 8

The specified Frequency for each SR is met if the Surveillance is performed within 1.25 times the interval specified in the Frequency, as measured from the previous performance or as measured from the time a specified condition of the Frequency is met. A.12

For Frequencies specified as "once," the above interval extension does not apply. M.1

If a Completion Time requires periodic performance on a "once per . . ." basis, the above Frequency extension applies to each performance after the initial performance. L.3

Exceptions to this Specification are stated in the individual Specifications. A.12

L.4

INSERT 9

A risk evaluation shall be performed for any Surveillance delayed greater than 24 hours and the risk impact shall be managed.

A.1

INSERT 10

in the Applicability of an LCO

Insert Page 3/4 0-2a

INSERT 11

A.13

This provision shall not prevent entry into MODES or other specified conditions in the Applicability that are required to comply with ACTIONS or that are part of a shutdown of the unit.

L.2

SR 3.0.4 is only applicable for entry into a MODE or other specified condition in the Applicability in MODES 1, 2, 3, and 4.

L.2

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.0 APPLICABILITY

SURVEILLANCE REQUIREMENTS

4.0.1 Surveillance Requirements shall be applicable during the OPERATIONAL MODES or other conditions specified for individual Limiting Conditions for Operation unless otherwise stated in an individual Surveillance Requirement.

4.0.2 Each Surveillance Requirement shall be performed within the specified time interval with a maximum allowable extension not to exceed 25% of the specified surveillance interval.

4.0.3 Performance of a Surveillance Requirement within the specified time interval shall constitute compliance with OPERABILITY requirements for a Limiting Condition for Operation and associated ACTION statements unless otherwise required by the specification.

If it is discovered that a surveillance was not performed within its specified surveillance interval, then compliance with the requirement to declare the Limiting Condition for Operation not met may be delayed, from the time of discovery, up to 24 hours or up to the limit of the specified surveillance interval, whichever is less. This delay period is permitted to allow performance of the surveillance.

If the surveillance is not performed within the delay period, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION requirements must be met.

When the surveillance is performed within the delay period and the surveillance criteria are not met, the Limiting Condition for Operation must immediately be declared not met, and the applicable ACTION requirements must be met.

Surveillance requirements do not have to be performed on inoperable equipment.

4.0.4 Entry into an OPERATIONAL MODE or other specified applicability condition shall not be made unless the Surveillance Requirement(s) associated with the Limiting Condition for Operation have been performed within the stated surveillance interval or as otherwise specified.

See ITS Section 3.0

5.5.6 4.0.5 Surveillance Requirements for inservice ~~inspection and~~ testing of ASME Code Class 1, 2, and 3 ~~components~~ pumps and valves shall be applicable as follows: LA.3

a. ~~Inservice inspection of ASME Code Class 1, 2, and 3 components and~~ inservice testing of ASME Code Class 1, 2 and 3 pumps and valves shall be performed in accordance with Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda as required by 10 CFR 50, Section 50.55a. LA.4

A.1

ITS

.0 (SR)

3/4.0 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.0 APPLICABILITY

A.1

SURVEILLANCE REQUIREMENTS

b. Surveillance Intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice inspection and testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice inspection and testing criteria	Required frequencies for performing inservice inspection and testing activities
Weekly	At least once per 7 days
Monthly	At least once per 31 days
Quarterly or every 3 months	At least once per 92 days
Semiannually or every 6 months	At least once per 184 days
Yearly or annually	At least once per 366 days

See ITS 5.5

c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice inspection and testing activities.

d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.

e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

4.0.6 Deleted

4.0.7 Deleted

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.0 APPLICABILITY

SURVEILLANCE REQUIREMENTS

A.15

5.5.6.a b. Surveillance Intervals specified in Section XI of the ASME Boiler and Pressure Vessel Code and applicable Addenda for the inservice ~~inspection and~~ testing activities required by the ASME Boiler and Pressure Vessel Code and applicable Addenda shall be applicable as follows in these Technical Specifications:

LA.3

ASME Boiler and Pressure Vessel Code and applicable Addenda terminology for inservice ~~inspection and~~ testing criteria	Required frequencies for performing inservice ~~inspection and~~ testing activities
~~Weekly~~	~~At least once per 7 days~~
~~Monthly~~	~~At least once per 31 days~~
Quarterly or every 3 months	At least once per 92 days
~~Semiannually or every 6 months~~	~~At least once per 184 days~~
Yearly or annually	At least once per 366 days
Biennially or every 2 years	At least once per 731 days

A.15

A.3

5.5.6.b c. The provisions of Specification 4.0.2 are applicable to the above required frequencies for performing inservice ~~inspection and~~ testing activities.

LA.3

~~d. Performance of the above inservice inspection and testing activities shall be in addition to other specified Surveillance Requirements.~~

A.4

5.5.6.d e. Nothing in the ASME Boiler and Pressure Vessel Code shall be construed to supersede the requirements of any Technical Specification.

A.15

Add proposed ITS 5.5.6.c

A.5

4.0.6 Deleted

4.0.7 Deleted

ITS Section 3.0

A.1

ITS

.0

(SR)

3/4 ~~LIMITING CONDITIONS FOR OPERATION AND~~ SURVEILLANCE REQUIREMENTS
3/4.0 APPLICABILITY

A.1

~~SURVEILLANCE REQUIREMENTS~~

~~4.0.8 Deleted~~

~~4.0.9 Deleted~~

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - T_{AVG} GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to 1.3% Delta k/k.

APPLICABILITY: MODES 1, 2*, 3, and 4. See ITS 3.1.1

ACTION:

With the SHUTDOWN MARGIN less than 1.3% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.3% Delta k/k:

1.1 a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. See ITS 3.1.4 If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). A.9

b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6.

c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6. See ITS 3.1.6

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.6. See ITS 3.1.1

*See Special Test Exception 3.10.1. See ITS 3.1.1

ITS 3.1.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN ~~- T_{AVG} GREATER THAN 200°F~~ A.2

LIMITING CONDITION FOR OPERATION

LCO 3.1.1 3.1.1.1 The SHUTDOWN MARGIN shall be ~~greater than or equal to 1.3% Delta k/k~~ within the limits specified in the COLR. LA.1

APPLICABILITY: MODES ~~1, 2*~~, 3, and 4. with k_{eff} < 1.0 A.3 A.4

ACTION:

ACTION A With the SHUTDOWN MARGIN ~~less than 1.3% Delta k/k~~ not within limits, ~~immediately~~ within 15 minutes initiate ~~and continue~~ boration ~~at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent~~ until the required SHUTDOWN MARGIN is restored. LA.1 L.1 L.2

SURVEILLANCE REQUIREMENTS

SR 3.1.1.1 4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be ~~greater than or equal to 1.3% Delta k/k~~ within limits: LA.1

a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). See ITS 3.1.4 See ITS Chapter 1.0

b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6.

c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6. See ITS 3.1.6

d. ~~Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.6.~~ L.3

~~*See Special Test Exception 3.10.1.~~ A.4

ITS 3.1.2

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL — Core Reactivity — A.2

SHUTDOWN MARGIN - T_{AVG} GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION — Add proposed LCO 3.1.2 — A.2

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to 1.3% Delta k/k. — See ITS 3.1.1

APPLICABILITY: MODES 1, 2*, 3, and 4. — L.1

ACTION:

With the SHUTDOWN MARGIN less than 1.3% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored. — See ITS 3.1.1

SURVEILLANCE REQUIREMENTS

4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.3% Delta k/k:

a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. — See ITS 3.1.4 — If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). — See ITS Chapter 1.0

b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6.

c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6.

See ITS 3.1.6

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.6. — See ITS 3.1.1

Add proposed ACTIONS A and B — L.2

*See Special Test Exception 3.10.1. — See ITS 3.1.1

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ITS 3.1.4

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - T_{AVG} GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to 1.3% Delta k/k. See ITS 3.1.1

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

ACTION:

With the SHUTDOWN MARGIN less than 1.3% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

Required Action A.1.1 4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.3% Delta k/k: L.10

a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). See ITS Chapter 1.0

b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6.

c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6. See ITS 3.1.6

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.6. See ITS 3.1.1

*See Special Test Exception 3.10.1. See ITS 3.1.1

ITS 3.1.6

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - T_{AVG} GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be greater than or equal to 1.3% Delta k/k. See ITS 3.1.1

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

ACTION:

With the SHUTDOWN MARGIN less than 1.3% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.1.1 The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.3% Delta k/k:

a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. See ITS 3.1.4 If the inoperable control rod is immovable or untrippable, the above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). See ITS Chapter 1.0

SR 3.1.6.2 b. When in MODE 1 or MODE 2 with K_{eff} greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.6.

SR 3.1.6.1 c. When in MODE 2 with K_{eff} less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical control rod position is within the limits of Specification 3.1.3.6.

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.6. See ITS 3.1.1

*See Special Test Exception 3.10.1. See ITS 3.1.1

ITS 3.1.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

MODE 2 with k_{eff} < 1.0 — M.1

SR 3.1.1.1 e. When in MODES 3 or 4, at least once per 24 hours by consideration of the following factors:

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration,
6. Samarium concentration, and
7. Boron penalty (MODE 4 only).

LA.2

4.1.1.1.2 The overall core reactivity balance shall be compared to predicted values to demonstrate agreement within plus or minus 1% Delta k/k at least once per 31 Effective Full Power Days (EFPD). This comparison shall consider at least those factors stated in Specification 4.1.1.1.1.e, above. . The predicted reactivity values shall be adjusted (normalized) to correspond to the actual core conditions prior to exceeding a fuel burnup of 60 Effective Full Power Days after each fuel loading.

See ITS 3.1.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

e. When in MODES 3 or 4, at least once per 24 hours by consideration of the following factors:

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration,
6. Samarium concentration, and
7. Boron penalty (MODE 4 only).

See ITS 3.1.1

M.1

Prior to entering MODE 1 after refueling and

L.3

LA.1

SR 3.1.2.1 4.1.1.1.2 The overall core reactivity balance shall be compared to predicted values to demonstrate agreement within plus or minus 1% Delta k/k at least once per 31 Effective Full Power Days (EFPD). This comparison shall consider at least those factors stated in Specification 4.1.1.1.1.e, above. The predicted reactivity values shall be adjusted (normalized) to correspond to the actual core conditions prior to exceeding a fuel burnup of 60 Effective Full Power Days after each fuel loading.

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

SHUTDOWN MARGIN - T_{avg} LESS THAN OR EQUAL TO 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.2 The SHUTDOWN MARGIN shall be greater than or equal to 1.0% Delta k/k. See ITS 3.1.1

APPLICABILITY: MODE 5.

ACTION:

With the SHUTDOWN MARGIN less than 1.0% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.2 The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.0% Delta k/k:

1.1 a. ~~Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable.~~ If the inoperable control rod is immovable or untrippable, the SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). See ITS 3.1.4 A.9

b. At least once per 24 hours by consideration of the following factors: See ITS 3.1.1

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration,
6. Samarium concentration, and
7. Boron penalty.

ITS 3.1.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

SHUTDOWN MARGIN - T_{AVG} LESS THAN OR EQUAL TO 200°F — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.1.1 — 3.1.1.2 The SHUTDOWN MARGIN shall be ~~greater than or equal to 1.0% Delta k/k~~ within the limits specified in the COLR. — LA.1

APPLICABILITY: MODE 5. — LA.1

ACTION:

ACTION A — With the SHUTDOWN MARGIN ~~less than 1.0% Delta k/k~~ not within limits, ~~immediately~~ within 15 minutes initiate ~~and continue~~ boration ~~at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent~~ until the required SHUTDOWN MARGIN is restored. — L.1, L.2

SURVEILLANCE REQUIREMENTS

SR 3.1.1.1 — 4.1.1.2 The SHUTDOWN MARGIN shall be determined to be ~~greater than or equal to 1.0% Delta k/k~~ within limits: — LA.1

a. Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable. If the inoperable control rod is immovable or untrippable, the SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s). — See ITS 3.1.4; See ITS Chapter 1.0

SR 3.1.1.1 — b. At least once per 24 hours ~~by consideration of the following factors:~~ — LA.2

1. ~~Reactor coolant system boron concentration,~~
2. ~~Control rod position,~~
3. ~~Reactor coolant system average temperature,~~
4. ~~Fuel burnup based on gross thermal energy generation,~~
5. ~~Xenon concentration,~~
6. ~~Samarium concentration, and~~
7. ~~Boron penalty.~~

ITS 3.1.4

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

SHUTDOWN MARGIN - T_{avg} LESS THAN OR EQUAL TO 200°F

LIMITING CONDITION FOR OPERATION

3.1.1.2 The SHUTDOWN MARGIN shall be greater than or equal to 1.0% Delta k/k.

See ITS 3.1.1

APPLICABILITY: MODE 5.

ACTION:

With the SHUTDOWN MARGIN less than 1.0% Delta k/k, immediately initiate and continue boration at greater than or equal to 34 gpm of a solution containing greater than or equal to 6,550 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

4.1.1.2 ~~The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.0% Delta k/k:~~

L.10

a. ~~Within one hour after detection of an inoperable control rod(s) and at least once per 12 hours thereafter while the rod(s) is inoperable.~~ If the inoperable control rod is immovable or untrippable, the SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn worth of the immovable or untrippable control rod(s).

See ITS Chapter 1.0

b. At least once per 24 hours by consideration of the following factors:

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration,
6. Samarium concentration, and
7. Boron penalty.

See ITS 3.1.1

ITS 3.1.1

A.1

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ITS 3.1.1

A.1

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CTS 3/4.1.1.3

REACTIVITY CONTROL SYSTEMS

BORON DILUTION

LIMITING CONDITION FOR OPERATION

3.1.1.3 The flow rate of reactor coolant through the reactor coolant system shall be greater than or equal to 2000 gpm whenever a reduction in Reactor Coolant System boron concentration is being made.*

APPLICABILITY: ALL MODES.

ACTION:

With the flow rate of reactor coolant through the reactor coolant system less than 2000 gpm, immediately suspend all operations involving a reduction in boron concentration of the Reactor Co..unt System.

SURVEILLANCE REQUIREMENTS

4.1.1.3 The flow rate of reactor coolant through the reactor coolant system shall be determined to be greater than or equal to 2000 gpm within one hour prior to the start of and at least once per hour during a reduction in the Reactor Coolant System boron concentration by either:

a. Verifying at least one reactor coolant pump is in operation, or

b. Verifying that at least one RHR pump is in operation and supplying greater than or equal to 2000 gpm through the reactor coolant system.

L.1

* For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.8.b.2 (MODES 1, 2, 3, and 4) or 3.1.2.7.b.2 (MODES 5 and 6).

ITS 3.1.3

A.1

ITS

REACTIVITY CONTROL SYSTEMS

MODERATOR TEMPERATURE COEFFICIENT

LIMITING CONDITION FOR OPERATION

LCO 3.1.3 3.1.1.4 The moderator temperature coefficient (MTC) shall be within the limits specified in the COLR. The maximum upper limit shall be less than or equal to the limit shown in Figure 3.1-2. upper A.2

APPLICABILITY: BOL Limit - MODES 1 and 2* only# A.3
EOL Limit - MODES 1, 2 and 3 only# lower A.2

ACTION:
a. With the MTC more positive than the BOL limit specified in the COLR: upper A.2 MODE 2 with k_{eff} < 1.0 A.4

ACTION A 1. Establish and maintain control rod withdrawal limits sufficient to restore the MTC to within its limit within 24

ACTION B hours or be in HOT STANDBY within the next 6 hours. These withdrawal limits shall be in addition to the insertion limits of Specification 3.1.3.6. A.5

2. Maintain the control rods within the withdrawal limits established above until subsequent measurement verifies that the MTC has been restored to within its limit for the all rods withdrawn condition. L.1

3. Prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 10 days describing the value of the measured MTC, the interim control rod withdrawal limits and the predicted average core burnup necessary for restoring the positive MTC to within its limit for the all rods withdrawn condition. L.2

ACTION C b. With the MTC more negative than the EOL limit specified in the COLR, be in HOT SHUTDOWN within 12 hours. lower A.2

Applicability * With K_{eff} greater than or equal to 1.0
See Special Test Exception 3.10.3 A.3

ITS 3.1.3

A.1

ITS

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS

4.1.1.4 The MTC shall be determined to be within its limits during each fuel cycle as follows: upper A.2

SR 3.1.3.1 a) The MTC shall be measured and compared to the BOL limit specified in the COLR prior to initial operation above 5% of RATED THERMAL POWER, after each fuel loading.

SR 3.1.3.2 b) The MTC shall be measured at any THERMAL POWER within 7 EFPD after reaching an equilibrium boron concentration of 300 ppm. The measured value shall be compared to the 300 ppm surveillance limit specified in the COLR. In the event this comparison indicates that the MTC will be more negative than the EOL limit, the MTC shall be remeasured at least once per 14 EFPD during the remainder of the fuel cycle and the MTC value compared to the EOL limit. L.3

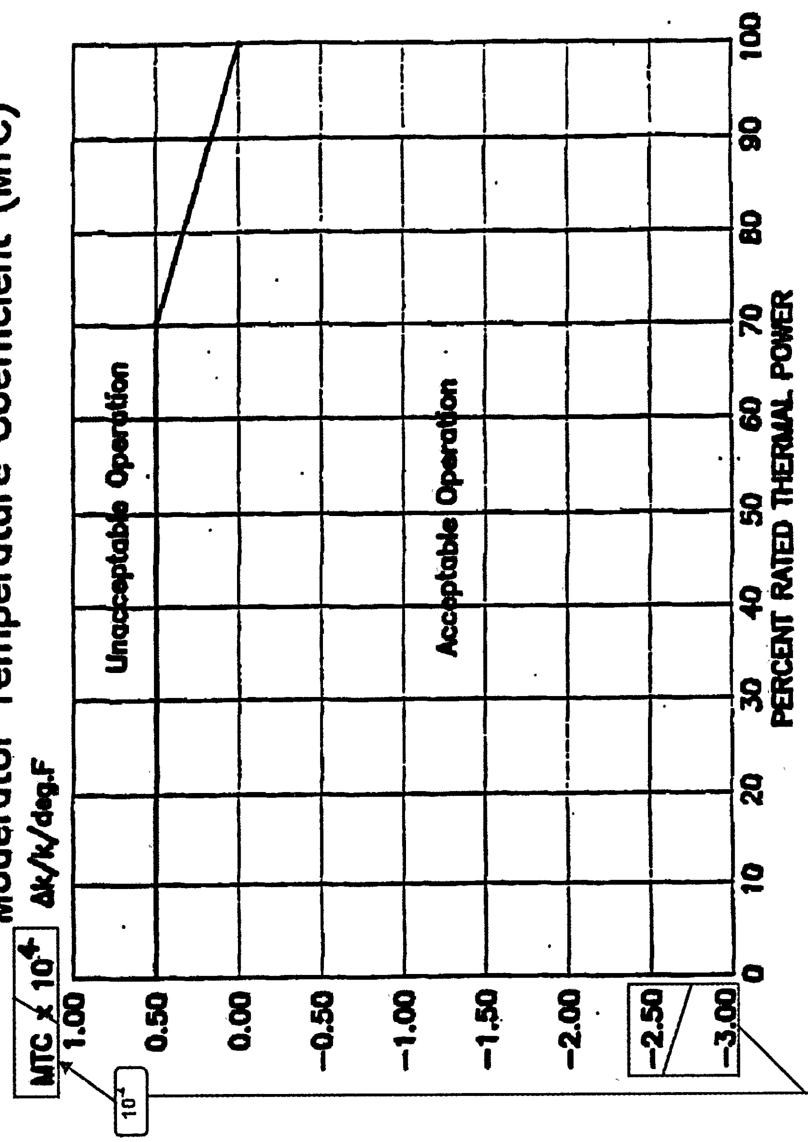
lower A.2

A.1

ITS

Figure 3.1.3-1

FIGURE 3.1—2
Moderator Temperature Coefficient (MTC)



A.6

ITS 3.4.2

A.1

ITS

REACTIVITY CONTROL SYSTEMS

MINIMUM TEMPERATURE FOR CRITICALITY

LIMITING CONDITION FOR OPERATION

LCO 3.4.2

3.1.1.5 The Reactor Coolant System lowest operating loop temperature (T_{avg}) shall be $\geq$ 541°F.

APPLICABILITY: MODES 1 and 2#.

ACTION:

ACTION A

~~With a Reactor Coolant System operating loop temperature (T_{avg}) < 541°F, restore (T_{avg}) to within its limit within 15 minutes or~~ be in ~~HOT STANDBY~~ within ~~the next 15~~ minutes.

30

MODE 2 with keff < 1.0

A.2

A.3

SURVEILLANCE REQUIREMENTS

SR 3.4.2.1

4.1.1.5 The Reactor Coolant System temperature (T_{avg}) shall be determined to be $\geq$ 541°F:

a. ~~Within 15 minutes prior to achieving reactor criticality, and~~

b. ~~At least once per 30 minutes when the reactor is critical and the Reactor Coolant System T_{avg} is less than 551°F with the T_{avg}-T_{ref} Deviation Alarm not reset.~~

12 hours

L.1

Applicability

#With $K_{eff} \geq 1.0$.

CTS 3/4.1.2.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.2 BORATION SYSTEMS

FLOW PATHS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.1 As a minimum, one of the following boron injection flow paths shall be OPERABLE:

a. A flow path from the boric acid tanks via a boric acid transfer pump and charging pump to the Reactor Coolant System if only the boric acid storage tank in Specification 3.1.2.7.a is OPERABLE, or

b. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System if only the refueling water storage tank in Specification 3.1.2.7.b is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With none of the above flow paths OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2. R.1

SURVEILLANCE REQUIREMENTS

4.1.2.1 At least one of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that the temperatures of the areas containing the flow path components from the boric acid tank to the blending tee are greater than or equal to 63°F when a flow path from the boric acid tanks is used.

b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

CTS 3/4.1.2.2

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

FLOW PATHS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.2 Each of the following boron injection flow paths shall be OPERABLE:

a. The flow path from the boric acid tanks via a boric acid transfer pump and a charging pump to the Reactor Coolant System, and

b. The flow path from the refueling water storage tank via a charging pump to the Reactor Coolant System.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the flow path from the boric acid tanks inoperable, restore the inoperable flow path to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F within the next 6 hours; restore the flow path to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours. R1

b. With the flow path from the refueling water storage tank inoperable, restore the flow path to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.2 Each of the above required flow paths shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that the temperatures of the areas containing the flow path components from the boric acid tank to the blending tee are greater than or equal to 63°F.

b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. At least once per 18 months during shutdown by verifying that each automatic valve in the flow path actuates to its correct position on a RWST sequencing signal.

d. At least once per 18 months during shutdown by verifying that the flow path required by specification 3.1.2.2.a delivers at least 34 gpm to the Reactor Coolant System.

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3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.3

a. One charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency bus.* (R.1) (L.1)

b. One charging flow path associated with support of Unit 1 shutdown functions shall be available. (See ITS 3.4.12)

APPLICABILITY: Specification 3.1.2.3.a - MODES 5 and 6. (R.1)
Specification 3.1.2.3.b - At all times when Unit 1 is in MODES 1, 2, 3, or 4. (L.1)

ACTION:

a. With no charging pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2. (R.1)

b. With more than one charging pump OPERABLE or with a safety injection pump(s) OPERABLE when the temperature of any RCS cold leg is less than or equal to 152°F, unless the reactor vessel head is removed, remove the additional charging pump(s) and the safety injection pump(s) motor circuit breakers from the electrical power circuit within one hour. (See ITS 3.4.12)

c. The provisions of Specification 3.0.3 are not applicable. (R.1)

d. In addition to the above, when Specification 3.1.2.3.b is applicable and the required flow path is not available, return the required flow path to available status within 7 days, or provide equivalent shutdown capability in Unit 1 and return the required flow path to available status within the next 60 days, or have Unit 1 in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours. (L.1)

e. The requirements of Specification 3.0.4 are not applicable when Specification 3.1.2.3.b applies.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required charging pump shall be demonstrated OPERABLE by verifying that the pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5 (R.1)

* A maximum of one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F. (See ITS 3.4.12)

ITS 3.4.12

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

CHARGING PUMP - SHUTDOWN

LIMITING CONDITION FOR OPERATION

See CTS 3/4.1.2.3

3.1.2.3

a. One charging pump in the boron injection flow path required by Specification 3.1.2.1 shall be OPERABLE and capable of being powered from an OPERABLE emergency bus.

b. One charging flow path associated with support of Unit 1 shutdown functions shall be available.*

APPLICABILITY: Specification 3.1.2.3.a. - MODES 5 and 6
Specification 3.1.2.3.b. - At all times when Unit 1 is in MODES 1, 2, 3, or 4.

ACTION:

a. With no charging pump OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

M.6

299

ACTION A,
ACTION B
Applicability

b. With more than one charging pump OPERABLE or with a safety injection pump(s) OPERABLE when the temperature of any RCS cold leg is less than or equal to 152°F, unless the reactor vessel head is removed, remove the additional charging pump(s) and the safety injection pump(s) ~~motor circuit breakers from the electrical power circuit within one hour~~.

LA.3

immediately

M.7

c. The provisions of Specification 3.0.3 are not applicable.

d. In addition to the above, when Specification 3.1.2.3.b is applicable and the required flow path is not available, return the required flow path to available status within 7 days, or provide equivalent shutdown capability in Unit 1 and return the required flow path to available status within the next 60 days, or have Unit 1 in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours.

See CTS 3/4.1.2.3

e. The requirements of Specification 3.0.4 are not applicable when Specification 3.1.2.3.b applies.

SURVEILLANCE REQUIREMENTS

4.1.2.3.1 The above required charging pump shall be demonstrated OPERABLE by verifying that the pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5

M.6

LCO 3.4.12
Applicability

* A maximum of one centrifugal charging pump shall be OPERABLE whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F.

299

Add proposed LCO 3.4.12 Note 3

M.6

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CTS 3/4.1.2.3

~~3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS~~
~~3/4.1 REACTIVITY CONTROL SYSTEMS~~

~~SURVEILLANCE REQUIREMENTS~~

R.1

4.1.2.3.2 All charging pumps and safety injection pumps, excluding the above-required OPERABLE charging pump, shall be demonstrated inoperable by verifying that the motor circuit breakers have been removed from their electrical power supply circuits at least once per 12 hours, except when:

a. The reactor vessel head is removed, or

b. The temperature of all RCS cold legs is greater than 152°F.

See ITS 3.4.12

4.1.2.3.3 ~~Charging line cross-tie valves to Unit 1 will be cycled full travel at least once per 18 months. Following cycling, the valves will be verified to be in their closed positions.~~

L.1

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

not capable of injection into the RCS — LA.3

SURVEILLANCE REQUIREMENTS

M.6

SR 3.4.12.1, SR 3.4.12.2 — 4.1.2.3.2 All charging pumps and safety injection pumps, excluding the above-required OPERABLE ~~charging pump, shall be demonstrated inoperable~~ by verifying that the motor circuit breakers have been removed from their electrical power supply circuits at least once per 12 hours, except when:

Applicability

a. The reactor vessel head is removed, or

b. The temperature of all RCS cold legs is greater than ~~152~~ 299 °F.

4.1.2.3.3 Charging line cross-tie valves to Unit 1 will be cycled full travel at least once per 18 months. Following cycling, the valves will be verified to be in their closed positions. — See CTS 3/4.1.2.3

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CTS 3/4.1.2.4

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

CHARGING PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.4 At least two charging pumps shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With only one charging pump OPERABLE, restore at least two charging pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY and borated to a SHUTDOWN MARGIN equivalent to at least 1% $\Delta k/k$ at 200°F within the next 6 hours; restore at least two charging pumps to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.4 At least two charging pumps shall be demonstrated OPERABLE by verifying that the pumps'developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5.

R.1

COOK NUCLEAR PLANT-UNIT 2 | Page 3/4 1-12 | AMENDMENT ~~39~~, 188

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CTS 3/4.1.2.5

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

BORIC ACID TRANSFER PUMPS - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.5 At least one boric acid transfer pump shall be OPERABLE and capable of being powered from an OPERABLE emergency bus if only the flow path through the boric acid transfer pump of Specification 3.1.2.1a is OPERABLE.

APPLICABILITY: MODES 5 and 6.

ACTION:

With no boric acid transfer pump OPERABLE as required to complete the flow path of Specification 3.1.2.1a, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

R.1

SURVEILLANCE REQUIREMENTS

4.1.2.5 No additional Surveillance Requirements other than those required by Specification 4.0.5.

COOK NUCLEAR PLANT-UNIT 2 | Page 3/4 1-13 | AMENDMENT 82, 213

CTS 3/4.1.2.6

REACTIVITY CONTROL SYSTEMS

BORIC ACID TRANSFER PUMPS - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.6 At least one boric acid transfer pump in the boron injection flow path required by Specification 3.1.2.2a shall be OPERABLE and capable of being powered from an OPERABLE emergency bus if the flow path through the boric acid pump in Specification 3.1.2.2a is OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With no boric acid transfer pump OPERABLE, restore at least one boric acid transfer pump to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to 1% $\Delta k/k$ at 200°F; restore at least one boric acid transfer pump to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours. R.1

SURVEILLANCE REQUIREMENTS

4.1.2.6 No additional Surveillance Requirements other than those required by Specification 4.0.5.

D. C. COOK - UNIT 2 3/4 1-14

BORATED WATER SOURCES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.1.2.7 As a minimum, one of the following borated water sources shall be OPERABLE:

a. A boric acid storage system with:

1. A minimum usable borated water volume of 5,000 gallons,
2. Between 6,550 and 6,990 ppm of boron, and
3. A minimum solution temperature of 63°F.

b. The refueling water storage tank with:

1. A minimum usable borated water volume of 90,000 gallons,
2. A minimum boron concentration of 2400 ppm, and
3. A minimum solution temperature of 70°F.

R.1

APPLICABILITY: MODES 5 and 6.

ACTION:

With no borated water source OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

SURVEILLANCE REQUIREMENTS

4.1.2.7 The above required borated water source shall be demonstrated OPERABLE:

a. At least once per 7 days by:

1. Verifying the boron concentration of the water,
2. Verifying the contained borated water volume, and
3. Verifying the boric acid storage tank solution temperature when it is the source of borated water.

b. At least once per 24 hours by verifying the RWST temperature when it is the source of borated water.

BORATED WATER SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.1.2.8 Each of the following borated water sources shall be OPERABLE:

a. A boric acid storage system with:

1. A minimum contained borated water volume of 8500 gallons,*

2. Between 6,550 and 6,990 ppm of boron, and

3. A minimum solution temperature of 63°F.

b. The refueling water storage tank with:

1. A minimum contained borated water volume of 375,500 gallons of water,

2. Between 2400 and 2600 ppm of boron, and

3. A minimum solution temperature of 70°F and a maximum solution temperature of 100°F. R.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the boric acid storage system inoperable, restore the storage system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and borated to a SHUTDOWN MARGIN equivalent to at least 1% Delta k/k at 200°F; restore the boric acid storage system to OPERABLE status within the next 7 days or be in COLD SHUTDOWN within the next 30 hours.

b. With the refueling water storage tank inoperable, restore the tank to OPERABLE status within one hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.1.2.8 Each borated water source shall be demonstrated OPERABLE:

*Not required when borated water is injected into the RCS to meet SHUTDOWN MARGIN requirements of MODES 3 and 4.

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CTS 3/4.1.2.8

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

a. At least once per 7 days by:

1. Verifying the boron concentration in each water source,
2. Verifying the contained borated water volume of each water source, and
3. Verifying the boric acid storage system solution temperature.

b. At least once per 24 hours by verifying the RWST temperature.

R.1

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ITS 3.1.4

ITS

A.1

REACTIVITY CONTROL SYSTEMS

3/4.1.3 MOVABLE CONTROL ASSEMBLIES

GROUP HEIGHT

LIMITING CONDITION FOR OPERATION

LCO 3.1.4 3.1.3.1 All full length (shutdown and control) rods shall be OPERABLE with all individual indicated rod positions within the allowed rod misalignment of their group step counter demand position as follows:

- for THERMAL POWER less than or equal to 85% of RATED THERMAL POWER, the allowed rod misalignment is ±18 steps, and
- for THERMAL POWER greater than 85% of RATED THERMAL POWER, the allowed rod misalignment is ±12 steps or as determined from Figure 3.1-4. Figure 3.1-4 permits an allowed rod misalignment from ±13 steps (for APL equal to 101%) to ±18 steps (for APL greater or equal to 106%) provided the value of R (defined in Figure 3.1-4) is greater than or equal to 1.04. A.2

APPLICABILITY: MODES 1* and 2* A.3

ACTION:

ACTION A a. With one or more full length rods inoperable due to being immovable as a result of excessive friction or mechanical interference or known to be untrippable, determine that the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied within 1 hour, and be in HOT STANDBY within 6 hours. LA.1

Add proposed Required Action A.1.2 L.1

ACTION D b. With more than one full length rod inoperable or misaligned from the group step counter demand position by more than the allowed rod misalignment, be in HOT STANDBY within 6 hours. L.2

Add proposed Required Actions D.1.1 and D.1.2 M.1

ACTION B c. With one full length rod inoperable due to causes other than addressed by ACTION a, above, or misaligned from its group step counter demand position by more than the allowed rod misalignment, POWER OPERATION may continue provided that within one hour either: L.2

1. The affected rod is restored to OPERABLE status within the above alignment requirements, or THERMAL POWER level is reduced to less than or equal to 85% of RATED THERMAL POWER for rod misalignments less than or equal to ±18 steps, or A.4

2. The affected rod is declared inoperable and the SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is satisfied. POWER OPERATION may then continue provided that: L.2

Add proposed Required Action B.1.2 L.1

a) A reevaluation of each accident analysis of Table 3.1-1 is performed within 5 days; this reevaluation shall confirm that the previously analyzed results of these accidents remain valid for the duration of operation under these conditions, and L.3

*See Special Test Exceptions 3.10.2 and 3.10.3 A.3

ITS 3.1.4

A.1

ITS

REACTIVITY CONTROL SYSTEMS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION B

b) The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 is determined at least once per 12 hours, and

c) A power distribution map is obtained from the movable incore detectors and $F_Q(Z)$ and $F^N_{\Delta H}$ are verified to be within their limits within 72 hours, and

two — L.4

d) Either the THERMAL POWER level is reduced to less than or equal to 75% of RATED THERMAL POWER within ~~one~~ hour and within the next 4 hours the high neutron flux trip setpoint is reduced to less than or equal to 85% of RATED THERMAL POWER, or — L.5

~~e) The remainder of the rods in the group with the inoperable rod are aligned to within the allowed rod misalignment of the inoperable rod within one hour while maintaining the rod sequence and insertion limits as specified in the COLR; the THERMAL POWER level shall be restricted pursuant to Specification 3.1.3.6 during subsequent operation.~~ — A.5

Add proposed ACTION C — M.2

SURVEILLANCE REQUIREMENTS

SR 3.1.4.1 4.1.3.1.1 The position of each full length rod shall be determined to be within the group demand limit by verifying the individual rod positions at least once per 12 hours ~~except during time intervals when the Rod Position Deviation Monitor is inoperable, then verify the group positions at least once per 4 hours~~. — L.6

SR 3.1.4.2 4.1.3.1.2 Each full length rod not fully inserted in the core shall be determined to be OPERABLE by movement of at least 8 steps in any one direction at least once per 92 days.

~~4.1.3.1.3 The allowed rod misalignment for THERMAL POWER greater than 85% of RATED THERMAL POWER shall be determined in conjunction with the measurement of APL as defined in Specification 4.2.6.2.~~ — A.6

ITS 3.1.4

A.1

ITS

TABLE 3.1-1

ACCIDENT ANALYSES REQUIRING REEVALUATION
IN THE EVENT OF AN INOPERABLE FULL LENGTH ROD

Rod Cluster Control Assembly Insertion Characteristics

Rod Cluster Control Assembly Misalignment

Loss Of Reactor Coolant From Small Ruptured Pipes Or From Cracks In Large Pipes Which Actuates The Emergency Core Cooling System

Single Rod Cluster Control Assembly Withdrawal At Full Power

Major Reactor Coolant System Pipe Ruptures (Loss Of Coolant Accident)

Major Secondary System Pipe Rupture

Rupture of a Control Rod Drive Mechanism Housing (Rod Cluster Control Assembly Ejection)

L.3

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ITS 3.1.4

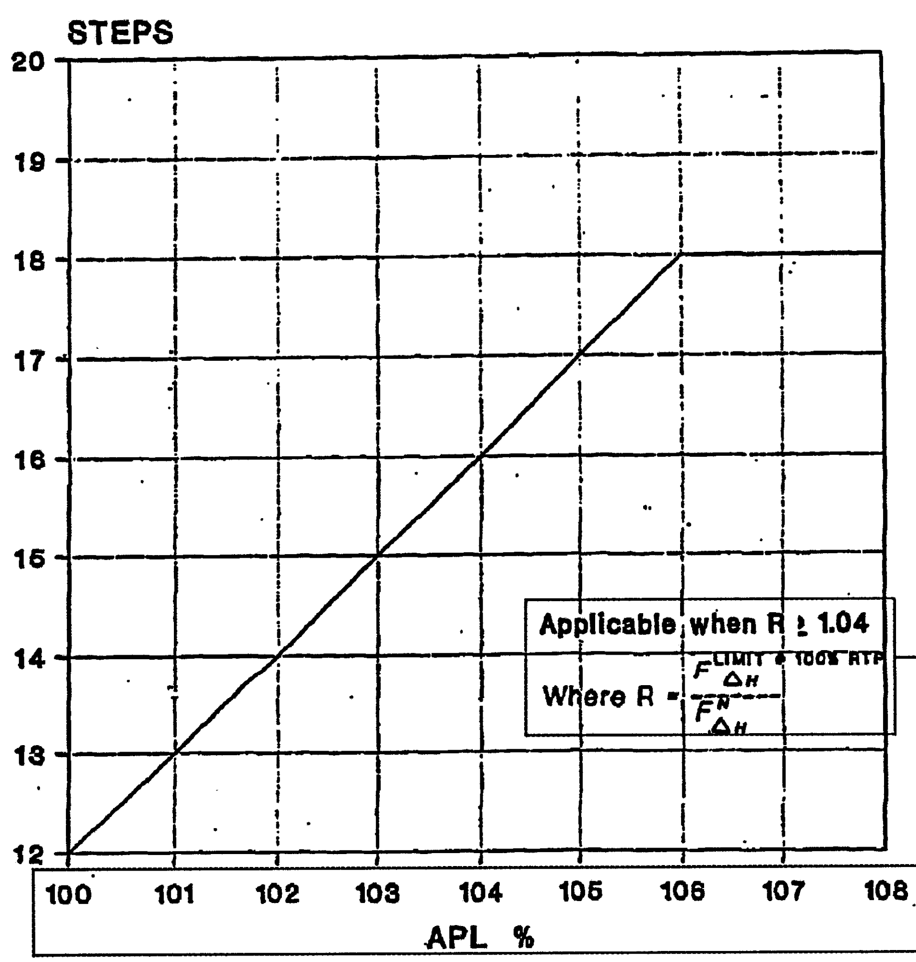
ITS

A.1

Figure 3.1.4-1

ALLOWED ROD MISALIGNMENT ABOVE 85% RTP

FIGURE 3.1-4



LCO 3.1.4 Note

A.2

A.6

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.1 REACTIVITY CONTROL SYSTEMS

POSITION INDICATOR CHANNELS-OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.1.7 3.1.3.2 All shutdown and control rod position indicator channels and the demand position indication system shall be OPERABLE and capable of ~~determining the control rod positions within the allowed rod misalignment specified in Specification 3.1.3.1.~~ LA.1

APPLICABILITY: MODES 1 and 2.

ACTION: Add proposed ACTIONS Note L.1

ACTION A

a. With a maximum of one rod position indicator channel per group inoperable either:

1. Determine the position of the non-indicating rod(s) indirectly by the movable incore detectors at least once per 8 hours and ~~immediately~~ 4 hours after any motion of the non-indicating rod which exceeds 24 steps in one direction since the last determination of the rod's position, or L.2

2. Reduce THERMAL POWER to less than or equal to 50% of RATED THERMAL POWER within 8 hours. L.3

ACTION C

b. With ~~a maximum of one~~ one or more demand position indicator ~~per bank~~ inoperable either: L.4

1. Verify that all rod position indicators for the affected bank are OPERABLE and that the most withdrawn rod and the least withdrawn rod of the bank are within a maximum of the allowed rod misalignment of each other, at least once per 8 hours, or L.3

2. Reduce THERMAL POWER to less than or equal to 50% of RATED THERMAL POWER within 8 hours.

Add proposed ACTION B L.5

Add proposed ACTION D M.1

SURVEILLANCE REQUIREMENTS

~~4.1.3.2 Each rod position indicator channel shall be determined to be OPERABLE by verifying the demand position indication system and the rod position indicator channels agree within the allowed rod misalignment at least once per 12 hours except during time intervals when the Rod Position Deviation Monitor is inoperable, then compare the demand position indication system and the rod position indicator channels at least once per 4 hours.~~ M.2

Add proposed SR 3.1.7.1

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REACTIVITY CONTROL SYSTEMS

ROD DROP TIME

LIMITING CONDITION FOR OPERATION

SR 3.1.4.3 3.1.3.4 The individual full length ~~(shutdown and control)~~ rod drop time from the fully withdrawn position (specified in the COLR) shall be less than or equal to 2.7 seconds from beginning of decay of stationary gripper coil voltage to dashpot entry with:

a. T_{avg} greater than or equal to 541°F, and — 500 — L.11

b. All reactor coolant pumps operating.

APPLICABILITY: MODES 1 AND 2

ACTION:

~~With the drop time of any full length rod determined to exceed the above limit, restore the rod drop time to within the above limit prior to proceeding to MODE 1 or 2.~~ — A.7

Add proposed ACTION A — M.3

SURVEILLANCE REQUIREMENTS

SR 3.1.4.3 4.1.3.4 The rod drop time of full length rods shall be demonstrated through measurement prior to entering MODE 2: — criticality — L.7

a. For all rods following each removal of the reactor vessel head;

~~b. For specifically affected individual rods following any maintenance on or modification to the control rod drive system which could affect the drop time of those specific rods, and~~ — L.8

~~c. At least once per 18 months.~~ — L.9

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ITS 3.1.5

A.1

ITS

REACTIVITY CONTROL SYSTEMS

SHUTDOWN ROD INSERTION LIMIT

LIMITING CONDITION FOR OPERATION

LCO 3.1.5 3.1.3.5 All shutdown rods shall be limited in physical insertion as specified in the COLR. A.2

APPLICABILITY: MODES 1* and 2*# M.1

ACTION:

one or more shutdown banks

ACTION A With ~~a maximum of one shutdown rod~~ inserted beyond the insertion limit specified in the COLR, ~~except for surveillance testing pursuant to Specification 4.1.3.1.2,~~ within ~~one~~ hour either: two L.1

Applicability Note

a. Restore the rod to within the insertion limit specified in the COLR, or

Add proposed Required Action A.1.1 and A.1.2

~~b. Declare the rod to be inoperable and apply Specification 3.1.3.1.~~

Add proposed ACTION B L.1

SURVEILLANCE REQUIREMENTS

SR 3.1.5.1 4.1.3.5 Each shutdown rod shall be determined to be within the insertion limit specified in the COLR:

~~a. Within 15 minutes prior to withdrawal of any rods in control banks A, B, C or D during an approach to reactor criticality, and~~ L.2

b. At least once per 12 hours thereafter.

~~* See Special Test Exceptions 3.10.2 and 3.10.3.~~ A.2

~~# With K_{eff} greater than or equal to 1.0~~ M.1

ITS 3.1.6

A.1

ITS

REACTIVITY CONTROL SYSTEMS

CONTROL ROD INSERTION LIMITS

LIMITING CONDITION FOR OPERATION

, sequence, and overlap limits — M.1

LCO 3.1.6 — 3.1.3.6 The control banks shall be limited in physical insertion as specified in the COLR.

A.2

APPLICABILITY: MODES ~~1#~~ and ~~2#~~.

ACTION:

ACTION A — With the control banks inserted beyond the insertion limits, except for

Applicability Note — surveillance testing pursuant to Specification 4.1.3.1.2; either:

Add proposed Required Actions A.1.1 and A.1.2 — M.2

ACTION A — a. Restore the control banks to within the limits within two hours, or

b. ~~Reduce THERMAL POWER within two hours to less than or equal to that fraction of RATED THERMAL POWER which is allowed by the group position using the insertion limits specified in the COLR,~~ or — A.3

Add proposed ACTION B — M.1

ACTION C — c. Be in at least ~~HOT STANDBY~~ within 6 hours.

MODE 2 with k_{eff} < 1.0 — A.4

SURVEILLANCE REQUIREMENTS

SR 3.1.6.2 — 4.1.3.6 The position of each control bank shall be determined to be within the insertion limits at least once per 12 hours ~~except during time intervals when the Rod Insertion Limit Monitor is inoperable, then verify the individual rod positions at least once per 4 hours.~~ — L.1

Add proposed SR 3.1.6.3 — M.1

~~* See Special Test Exceptions 3.10.2 and 3.10.3~~ — A.2

Applicability — # With K_{eff} greater than or equal to 1.0.

ITS 3.1.6

A.1

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ITS 3.1.6

A.1

REACTIVITY CONTROL SYSTEMS

CONTROL ROD INSERTION LIMITS

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ITS 3.2.3

A.1

ITS

3/4.2 POWER DISTRIBUTION LIMITS

AXIAL FLUX DIFFERENCE (AFD)

LIMITING CONDITION FOR OPERATION

LCO 3.2.3.a 3.2.1 The indicated AXIAL FLUX DIFFERENCE (AFD) shall be maintained within the target band about a target flux difference. The target band is specified in the COLR.

Add proposed LCO 3.2.3.c — A.2, A.3

APPLICABILITY: MODE 1 above ~~50%~~ 15 RATED THERMAL POWER* — A.3, A.2

ACTION:

ACTION A

a. With the indicated AXIAL FLUX DIFFERENCE outside of the target band about the target flux difference and with THERMAL POWER: — LA.1

1. ~~Above 90% or 0.9 x APL (whichever is less) of RATED THERMAL POWER~~, within ~~15~~ minutes: — L.1

a) Either restore the indicated AFD to within the target band limits, or

ACTION B

b) Reduce THERMAL POWER to ~~less than 90% or 0.9 x APL (whichever is less) of RATED THERMAL POWER~~. — LA.1

LCO 3.2.3.b

ACTION C

2. Between 50% and ~~90% or 0.9 x APL (whichever is less)~~ of RATED THERMAL POWER:

a) POWER OPERATION may continue provided:

1) The indicated AFD has not been outside of the target band for more than 1 hour penalty deviation cumulative during the previous 24 hours, and

2) The indicated AFD is within the limits specified in the COLR. ~~Otherwise, reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 30 minutes and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within the next 4 hours.~~

Add proposed Condition C Note — M.1

L.2

LCO 3.2.3 Note 4

b) Surveillance testing of the Power Range Neutron Flux Channels may be performed pursuant to Specification 4.3.1.1.1 provided the indicated AFD is maintained within the limit specified in the COLR. A total of 16 hours operation may be accumulated with the AFD outside of the target band during this testing without penalty deviation.

~~* See Special Test Exception 3.10.2~~ — A.3

ITS 3.2.3

A.1

ITS

POWER DISTRIBUTION LIMITS

ACTION: (Continued)

b. THERMAL POWER shall not be increased above 90% or 0.9 x APL (whichever is less) of RATED THERMAL POWER unless the indicated AFD is within the target band and ACTION 2.a) 1), above has been satisfied.

c. THERMAL POWER shall not be increased above 50% of RATED THERMAL POWER unless the indicated AFD has not been outside of the target band for more than 1 hour penalty deviation cumulative during the previous 24 hours.

A.4

SURVEILLANCE REQUIREMENTS

SR 3.2.3.1 4.2.1.1 The indicated AXIAL FLUX DIFFERENCE shall be determined to be within its limits during POWER OPERATION above 15% of RATED THERMAL POWER by:

a. Monitoring the indicated AFD for each OPERABLE excore channel:

1. At least once per 7 days when the AFD Monitor Alarm is OPERABLE, and

2. At least once per hour for the first 24 hours after restoring the AFD Monitor Alarm to OPERABLE status if the AFD has been outside of the target band for any period of time in the previous 24 hours of operation.

b. Monitoring and logging the indicated AXIAL FLUX DIFFERENCE for each OPERABLE excore channel at least once per hour for the first 24 hours and at least once per 30 minutes thereafter, when the AXIAL FLUX DIFFERENCE Monitor Alarm is inoperable. The logged values of the indicated AXIAL FLUX DIFFERENCE shall be assumed to exist during the interval preceding each logging.

L.3

ITS 3.2.3

A.1

ITS

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS (Continued)

LCO 3.2.3 Note 1 — 4.2.1.2 The indicated AFD shall be considered outside of its target band when at least 2 of 4 or 2 of 3 OPERABLE excore channels are indicating the AFD to be outside the target band.

LCO 3.2.3 Notes 2 and 3 — Penalty deviation outside of the target band shall be accumulated on a time basis of:

LCO 3.2.3 Note 2 — a. A penalty deviation of one minute for each one minute of POWER OPERATION outside of the target band at THERMAL POWER levels equal to or above 50% of RATED THERMAL POWER, and

LCO 3.2.3 Note 3 — b. A penalty deviation of one half minute for each one minute of POWER OPERATION outside of the target band at THERMAL POWER levels between 15% and 50% of RATED THERMAL POWER.

SR 3.2.3.3 — 4.2.1.3 The target axial flux difference for the OPERABLE excore channels shall be determined in conjunction with the measurement of APL as defined in Specification 4.2.6.2. ~~The provisions of Specification 4.0.4 are not applicable.~~ L.4

SR 3.2.3.2 — 4.2.1.4 The axial flux difference target band about the target axial flux difference shall be determined in conjunction with the measurement of APL as defined in Specification 4.2.6.2. ~~The allowable values of the target band are specified in the COLR.~~ A.5 ~~The provisions of Specification 4.0.4 are not applicable.~~ L.4

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ITS 3.2.1

A.1

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POWER DISTRIBUTION LIMITS

HEAT FLUX HOT CHANNEL FACTOR-$F_Q(Z)$

LIMITING CONDITION FOR OPERATION

$F^C_Q(Z)$ shall be within the limits specified in the COLR — LA.1

LCO 3.2.1 3.2.2 $F_Q(Z)$ shall be limited by the following relationships:

$F_Q(Z) \leq CFQ/P\ [K(Z)]$ $P > 0.5$

$F_Q(Z) \leq CFQ/0.5\ [K(Z)]$ $P \leq 0.5$

- CFQ is the F_Q limit at RATED THERMAL POWER specified in the COLR
- $P = \frac{\text{THERMAL POWER}}{\text{RATED THERMAL POWER}}$
- $F_Q(Z)$ is the measured hot channel factor including a 3% manufacturing tolerance uncertainty and a 5% measurement uncertainty.
- $K(Z)$ is the normalized $F_Q(Z)$ as a function of core height specified in the COLR.

APPLICABILITY: MODE 1

ACTION:

ACTION A

With $F_Q(Z)$ exceeding its limit: after each determination of $F_Q(Z)$ — A.2

a. Reduce THERMAL POWER at least 1% for each 1% $F_Q(Z)$ exceeds the limit within 15 minutes and similarly reduce the Power Range Neutron Flux-High Trip Setpoints within the next $\boxed{4}$ 72 hours; POWER OPERATION may proceed for up to a total of 72 hours; subsequent POWER OPERATION may proceed provided the Overpower ΔT Trip Setpoints have been reduced at least 1% for each 1% $F_Q(Z)$ exceeds the limit. — L.1

b. ~~Identify and~~ correct the cause of the out of limit condition prior to increasing THERMAL POWER above the reduced limit required by a, above; THERMAL POWER may then be increased provided $F_Q(Z)$ is demonstrated through incore mapping to be within its limit. — L.2

Add proposed ACTION C — M.1

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ITS 3.2.1

A.1

ITS

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS

~~4.2.2.1 The provisions of Specification 4.0.4 are not applicable.~~ A.3

SR 3.2.1.1 4.2.2.2 $F_Q(Z)$ shall be determined to be within its limit above 5% of RATED THERMAL POWER according to the following schedule:

a. ~~Whenever $F_Q(Z)$ is measured for reasons other than meeting the requirement of 4.2.6.2, or~~

Add proposed 1st Frequency including Note to SR 3.2.1.1 M.2

b. At least once per 31 effective full power days, ~~whichever occurs first~~.

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POWER DISTRIBUTION LIMITS

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ITS 3.2.2

A.1

ITS

POWER DISTRIBUTION LIMITS

NUCLEAR ENTHALPY HOT CHANNEL FACTOR - $F^N_{\Delta H}$

LIMITING CONDITION FOR OPERATION

LCO 3.2.2 3.2.3 $F^N_{\Delta H}$ shall be ~~limited by the following relationship:~~

$F^N_{\Delta H} \leq CFDH\ [1 + PFDH\ (1-P)]$

where: P is the fraction of RATED THERMAL POWER

CFDH is the $F^N_{\Delta H}$ limit at RATED THERMAL POWER specified in the COLR

PFDH is the power factor multiplier for $F^N_{\Delta H}$ specified in the COLR

within the limits specified in the COLR — LA.1

APPLICABILITY: MODE 1

ACTION:

With $F^N_{\Delta H}$ exceeding its limit: — Add proposed Condition A Note — M.1

Required Actions A.1 and A.3 — a. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within ~~2~~ 4 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to less than or equal to 55% of RATED THERMAL POWER within ~~the next 4~~ 72 hours. — L.1

LA.2

Required Action A.2 — b. Demonstrate ~~through in-core mapping~~ that $F^N_{\Delta H}$ is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to

ACTION B — less than 5% of RATED THERMAL POWER within the next ~~2~~ 6 hours, and — L.2

Required Action A.4 — c. Identify and correct the cause of the out-of-limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION may proceed, provided that $F^N_{\Delta H}$ is demonstrated ~~through in-core mapping~~ to be within its limit at a nominal 50% of RATED THERMAL POWER prior to exceeding this THERMAL POWER, at a nominal 75% of RATED THERMAL POWER prior to exceeding this THERMAL POWER and within 24 hours after attaining 95% or greater RATED THERMAL POWER. — A.2, LA.2

Add proposed Required Action A.4 Note — A.3

ITS 3.2.2

A.1

ITS

POWER DISTRIBUTION LIMITS

SURVEILLANCE REQUIREMENTS

SR 3.2.2.1 4.2.3 $F^{N}_{\Delta H}$ shall be determined to be within its limit by using the movable incore detectors to obtain a power distribution map: LA.2

a. Prior to operation above 75% of RATED THERMAL POWER after each fuel loading, and

thereafter

b. At least once per 31 Effective Full Power Days. A.4

c. ~~The provisions of Specification 4.0.4 are not applicable.~~

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ITS 3.2.2

A.1

ITS

POWER DISTRIBUTION LIMITS

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ITS 3.2.2

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POWER DISTRIBUTION LIMITS

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ITS 3.2.4

ITS

A.1

POWER DISTRIBUTION LIMITS

QUADRANT POWER TILT RATIO

LIMITING CONDITION FOR OPERATION

LCO 3.2.4

3.2.4 THE QUADRANT POWER TILT RATIO shall not exceed 1.02

APPLICABILITY: MODE 1 above 50% of RATED THERMAL POWER* — A.2

ACTION:

ACTION A, ACTION B

a. With the QUADRANT POWER TILT RATIO determined to exceed 1.02 but ≤ 1.09:

1. Within 2 hours:

a) ~~Either reduce the QUADRANT POWER TILT RATIO to within its limit, or~~ — A.3

b) Reduce THERMAL POWER at least 3% from RATED THERMAL POWER for each 1% of indicated QUADRANT POWER TILT RATIO in excess of 1.0 ~~and similarly reduce the Power Range Neutron Flux-High Trip Setpoints within the next 4 hours.~~ — L.1

2. ~~Verify that the QUADRANT POWER TILT RATIO is within its limit within 24 hours after exceeding the limit or reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within the next 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to ≤ 55% of RATED THERMAL POWER within the next 4 hours.~~

3. ~~Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL power may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified acceptable at 95% or greater RATED THERMAL POWER.~~

Add proposed Required Actions A.2, A.3, A.4, A.5, A.6, and ACTION B — L.2

ACTION A, ACTION B

b. With the QUADRANT POWER TILT RATIO determined to exceed 1.09 due to misalignment of either a shutdown or control rod:

1. Reduce THERMAL POWER at least 3% from RATED THERMAL POWER for each 1% of indicated QUADRANT POWER TILT RATIO in excess of 1.0, within ~~30 minutes~~ 2 hours — L.3

2. ~~Verify that the QUADRANT POWER TILT RATIO is within its limit within 2 hours after exceeding the limit or~~

Add proposed Required Actions A.2, A.3, A.4, A.5, A.6, and ACTION B — L.2

~~*See Special Test Exception 3.10.2.~~ — A.2

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ITS 3.2.4

A.1

ITS

POWER DISTRIBUTION

ACTION: (Continued)

reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within the next 2 hours and reduce the Power Range Neutron Flux-High trip Setpoints to ≤ 55% of RATED THERMAL POWER within the next 4 hours.

3. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER; subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified acceptable at 95% or greater RATED THERMAL POWER. L.2

ACTION A, ACTION B

c. With the QUADRANT POWER TILT RATIO determined to exceed 1.09 due to causes other than the misalignment of either a shutdown or control rod:

1. Reduce THERMAL POWER to less than 50% of RATED THERMAL POWER within 2 hours and reduce the Power Range Neutron Flux-High Trip Setpoints to ≤ 55% of RATED THERMAL POWER within the next 4 hours.

2. Identify and correct the cause of the out of limit condition prior to increasing THERMAL POWER, subsequent POWER OPERATION above 50% of RATED THERMAL POWER may proceed provided that the QUADRANT POWER TILT RATIO is verified within its limit at least once per hour for 12 hours or until verified at 95% or greater RATED THERMAL POWER.

Add proposed Required Actions A.1, A.2, A.3, A.4, A.5, A.6, and ACTION B L.2

SURVEILLANCE REQUIREMENTS

Add proposed SR 3.2.4.1 Note 2 L.4

SR 3.2.4.1

4.2.4 The QUADRANT POWER TILT RATIO shall be determined to be within the limit above 50% of RATED THERMAL POWER by:

a. Calculating the ratio at least once per 7 days when the alarm is OPERABLE.

b. Calculating the ratio at least once per 12 hours during steady state operation when the alarm is inoperable. L.5

SR 3.2.4.2

c. Using the movable incore detectors to confirm that the power distribution is consistent with the indicated QUADRANT POWER TILT RATIO at least once per 12 hours when one Power Range Channel is inoperable and THERMAL POWER is > 75 percent of RATED THERMAL POWER.

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ITS 3.4.1

A.1

ITS

POWER DISTRIBUTION LIMITS

DNB AND Tavg OPERATING PARAMETERS

LIMITING CONDITION FOR OPERATION

LCO 3.4.1 — 3.2.5 The following DNB related parameters shall be maintained within the following operational indicated limits:

a. DNB

1. Reactor Coolant System T_{avg} — ~~Less than or equal to 578.7°F*~~ (as specified in the COLR) LA.3
2. Pressurizer Pressure — ~~Greater than or equal to 2200 psig*/**~~
3. Reactor Coolant System Total Flow Rate — Greater than or equal to 366,400 gpm*** (Add limit specified in COLR) LA.3

~~b. T_{avg}~~

~~1. Reactor Coolant System T_{avg} Greater than or equal to 543.9°F*~~ LA.3

APPLICABILITY: MODE 1

ACTION:

ACTION A — With any of the above parameters exceeding its limit, restore the parameter to within its limit within 2 hours (or equal to) A.2

ACTION B — or reduce THERMAL POWER to less than 5% of RATED THERMAL POWER within the next ~~4~~ 6 hours. L.1

SURVEILLANCE REQUIREMENTS

SR 3.4.1.1, SR 3.4.1.2, SR 3.4.1.3 — 4.2.5.1 Each of the above parameters shall be verified to be within their limits at least once per 12 hours. LA.1

~~4.2.5.2 The indicators used to determine RCS total flow shall be subjected to a CHANNEL CALIBRATION at least once per 18 months.~~ (Add proposed SR 3.4.1.4 Note) M.1

SR 3.4.1.4 — 4.2.5.3 The RCS total flow rate shall be determined by a ~~power balance around the steam generators~~ (precision heat balance) LA.2 at least once per ~~18~~ 24 months. L.2

~~4.2.5.4 The provisions of Specification 4.0.4 shall not apply to primary flow surveillances.~~

~~* Indicated average of at least three OPERABLE instrument loops.~~ M.1

Applicability Note — ** Limit not applicable during either a THERMAL POWER ramp in excess of 5% of RATED THERMAL POWER per minute or a THERMAL POWER step in excess of 10% of RTP

~~*** Indicated value~~ LA.4

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ITS 3.2.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.2 POWER DISTRIBUTION LIMITS

ALLOWABLE POWER LEVEL - APL

LIMITING CONDITION FOR OPERATION

$F_Q^W(Z)$ A.4

within the limit specified in the COLR

LCO 3.2.1 3.2.6 ~~ALLOWABLE POWER LEVEL (APL)~~ ~~given by the following relationship~~, shall be ~~greater than or equal to THERMAL POWER:~~

$$APL = \text{min over } Z \text{ of } \frac{CFQxK(Z)}{F_Q(Z)xV(Z)xF_P} \text{ x } 100\%$$

LA.2

- o ~~CFQ is the F_Q limit at RATED THERMAL POWER specified in the COLR.~~
- o ~~K(Z) is the normalized $F_Q(Z)$ as a function of core height specified in the COLR.~~
- o ~~$F_Q(Z)$ is the measured hot channel factor including a 3% manufacturing tolerance uncertainty and a 5% measurement uncertainty.~~ A.4
- o ~~V(Z) is the function specified in the COLR.~~
- o ~~F_P = 1.00~~ except when successive steady-state power distribution maps indicate an increase in max over Z of $\frac{F_Q(Z)}{K(Z)}$ with exposure.

Note to SR 3.2.1.2

Then either of the penalties, F_P, shall be taken:

F_P = burnup dependent penalty specified in the COLR, or

F_P = 1.00 provided that Surveillance Requirement 4.2.6.2 is satisfied once per 7 Effective Full Power Days until two successive maps indicate that the max over Z of $\frac{F_Q(Z)}{K(Z)}$ is not increasing.

- o ~~The above limit is not applicable in the following core regions.~~
  1) ~~Lower core region 0% to 10% inclusive.~~
  2) ~~Upper core region 90% to 100% inclusive.~~

LA.2

APPLICABILITY: MODE 1

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ITS 3.2.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.2 POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

A.4

4 hours — L.3

72 — L.1

ACTION B With APL less than THERMAL POWER, reduce THERMAL POWER to APL or less of RATED THERMAL POWER within ~~15 minutes~~. Then reduce the Power Range Neutron Flux-High Trip Setpoints by the same percentage which APL is below RATED THERMAL POWER within the next 4 hours; POWER OPERATION may proceed for up to a total of 72 hours; subsequent POWER OPERATION may proceed provided the Overpower ΔT Trip Setpoints have been reduced the same percentage which APL is below RATED THERMAL POWER.

Add proposed Required Action B.4 — M.3

Add proposed ACTION C — M.1

SURVEILLANCE REQUIREMENTS

A.3

~~4.2.6.1 The provisions of Specification 4.0.4 are not applicable.~~

$F_Q^W(Z)$ — A.4

A.5

SR 3.2.1.2 4.2.6.2 APL shall be determined by measurement ~~in conjunction with the target flux difference and target band determination~~* above 15% of RATED THERMAL POWER, according to the following schedule:

within 24 hours — M.2

a. Upon achieving equilibrium conditions after exceeding by 10% or more of RATED THERMAL POWER, the THERMAL POWER at which APL was last determined**, or

$F_Q^W(Z)$ — A.4

b. At least once per 31 effective full power days, whichever occurs first.

~~* APL can be redefined by remeasuring the target axial flux difference.~~ — A.4

SR 3.2.1.2 Note 1 ** During power escalation at the beginning of each cycle, the design target may be used until a power level for extended operation has been achieved. — M.2

ITS 3.2.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.2 POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

With APL less than THERMAL POWER, reduce THERMAL POWER to APL or less of RATED THERMAL POWER within 15 minutes. Then reduce the Power Range Neutron Flux-High Trip Setpoints by the same percentage which APL is below RATED THERMAL POWER within the next 4 hours; POWER OPERATION may proceed for up to a total of 72 hours; subsequent POWER OPERATION may proceed provided the Overpower ΔT Trip Setpoints have been reduced the same percentage which APL is below RATED THERMAL POWER. — See ITS 3.2.1

SURVEILLANCE REQUIREMENTS

4.2.6.1 The provisions of Specification 4.0.4 are not applicable.

4.2.6.2 APL shall be determined by measurement in conjunction with the target flux difference and target band determination* above 15% of RATED THERMAL POWER, according to the following schedule:

SR 3.2.3.2, SR 3.2.3.3

a. ~~Upon achieving equilibrium conditions after exceeding by 10% or more of RATED THERMAL POWER, the THERMAL POWER at which APL was last determined**, or~~ Once within 31 EFPD after each refueling

b. At least once per 31 effective full power days thereafter, ~~whichever occurs first.~~ L.4

~~* APL can be redefined by remeasuring the target axial flux difference.~~ — See ITS 3.2.1

SR 3.2.3.3 Note ** During power escalation at the beginning of each cycle, the design target may be used until a power level for extended operation has been achieved.

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ITS 3.3.1

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.1 3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE.

APPLICABILITY: As shown in Table 3.3-1.

ACTION: Add proposed ACTIONS Note — A.2

ACTION A As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

SR Table Note 4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the MODES and at the frequencies shown in Table 4.3-1. — A.20; 92 days on a STAGGERED TEST BASIS — M.6

SR 3.3.1.5 / SR 3.3.1.13, SR 3.3.1.14, SR 3.3.1.16 4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE ~~prior to each reactor startup unless performed during the preceding 92 days~~. The total interlock function shall be demonstrated OPERABLE at least once per ~~18~~ 24 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. — L.1, L.2

SR 3.3.1.19 4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per ~~18~~ 24 months. ~~Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.~~* — L.3, A.17; on a STAGGERED TEST BASIS — A.4

SR 3.3.1.19 Note * Neutron detectors are exempt from response time testing. ~~Response time of the neutron flux signal portion of the channel shall be measured from detector output or input of first electronic component in channel.~~ — LA.1

ITS 3.3.8

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.1 REACTOR TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.8 3.3.1.1 As a minimum, the reactor trip system instrumentation channels and interlocks of Table 3.3-1 shall be OPERABLE. A.2

See ITS 3.3.1

APPLICABILITY: As shown in Table 3.3-1.

ACTION:

As shown in Table 3.3-1.

SURVEILLANCE REQUIREMENTS

SR 3.3.8.1, SR 3.3.8.2 4.3.1.1.1 Each reactor trip system instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the MODES and at the frequencies shown in Table 4.3-1. A.3

4.3.1.1.2 The logic for the interlocks shall be demonstrated OPERABLE prior to each reactor startup unless performed during the preceding 92 days. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. See ITS 3.3.1

~~4.3.1.1.3 The REACTOR TRIP SYSTEM RESPONSE TIME of each reactor trip function shall be demonstrated to be within its limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once every N times 18 months where N is the total number of redundant channels in a specific reactor trip function as shown in the "Total No. of Channels" column of Table 3.3-1.*~~ A.4

~~* Neutron detectors are exempt from response time testing. Response time of the neutron flux signal portion of the channel shall be measured from detector output or input of first electronic component in channel.~~ A.4

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ITS 3.3.1

ITS

Table 3.3.1-1

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

ITS		FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1	1.	Manual Reactor Trip	2	1	2	1, 2 and * Note a	12 B, P, Q
2.a, 2.b	2.	Power Range, Neutron Flux	4	2	3 4	1, 2 and *	2 C, D
3.a	3.	Power Range, Neutron Flux High Positive Rate	4	2	3 4	1, 2	2 D
3.b	4.	Power Range, Neutron Flux High Negative Rate	4	2	3 4	1, 2	2 D
4	5.	Intermediate Range, Neutron Flux	2	1	2	1, 2 and *	3 E, F
5	6.	Source Range, Neutron Flux A. Startup	2	1	2	2## and * Note a	4 G, I, Q
		B. Shutdown	2	0	1*	3, 4 and 5	5
6	7.	Overtemperature ΔT Four Loop Operation	4	2	3 4	1, 2	6 D
7	8.	Overpower ΔT Four Loop Operation	4	2	3 4	1, 2	6 D

A.1 LA.2 A.5 L.5 A.6 A.7 A.8 A.9

See ITS 3.3.8

ITS 3.3.8

A.1

ITS

TABLE 3.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION

LA.1

	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1.	Manual Reactor Trip	2	1	2	1, 2 and *	12
2.	Power Range, Neutron Flux	4	2	3	1, 2 and *	2#
3.	Power Range, Neutron Flux High Positive Rate	4	2	3	1, 2	2#
4.	Power Range, Neutron Flux High Negative Rate	4	2	3	1, 2	2#
5.	Intermediate Range, Neutron Flux	2	1	2	1, 2 and *	3
6.	Source Range, Neutron Flux					
	A. Startup	2	1	2	2## and *	4
	B. Shutdown	~~2~~	~~0~~	1*	3, 4 and 5	5
7.	Overtemperature ΔT Four Loop Operation	4	2	3	1, 2	6#
8.	Overpower ΔT Four Loop Operation	4	2	3	1, 2	6#

See ITS 3.3.1

See ITS 3.3.1

LA.1

See ITS 3.3.1

LCO 3.3.8, Applicability, and ACTION A

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ITS 3.3.1

ITS

Table 3.3.1-1

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

ITS	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
8.a	9. Pressurizer Pressure-Low	~~4~~	~~2~~	~~3~~ 4	1, 2	~~6#~~ D
8.b	10. Pressurizer Pressure--High	~~4~~	~~2~~	~~3~~ 4	1, 2	~~6#~~ D
9	11. Pressurizer Water Level--High	~~3~~	~~2~~	~~2~~ 3	1, 2	~~7#~~ D
10	12. Loss of Flow - ~~Single Loop (Above P-8)~~	~~3/loop~~	~~2/loop in any operating loop~~	~~2~~ 3 ~~/loop in each operating loop~~	1	~~7#~~ D
10 Footnote (e)	13. Loss of Flow - ~~Two Loops~~ (Above P-7 ~~and below P-8~~)	~~3/loop~~	~~2/loop in two operating loops~~	~~2~~ 3 ~~/loop in each operating loop~~	1	~~7#~~ D
14	14. Steam Generator Water Level--Low-Low	~~3/loop~~	~~2/loop in any operating loop~~	~~2~~ 3 ~~/loop in each operating loop~~	1, 2	~~7#~~ D
15	15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	~~2/loop-level and 2/loop-flow mismatch in same loop~~	~~1/loop-level coincident with 1/loop-flow mismatch in same loop~~	~~1~~ 2/loop-level and 2/loop-flow mismatch ~~or 2/loop-level and 1/loop-flow mismatch~~	1, 2	~~7#~~ D

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ITS 3.3.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.1-1

TABLE 3.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION

LA.2 A.5 A.6 A.10 A.6 A.10 A.6 A.5 A.5 A.12

ITS		FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
12	16.	Undervoltage-Reactor Coolant Pumps	4-1/bus	2	~~3~~ 1 per bus	1	6~~#~~ D
13	17.	Underfrequency-Reactor Coolant Pumps	4-1/bus	2	~~3~~ 1 per bus	1	6~~#~~ D
	18.	Turbine Trip					
16.a		A. Low Fluid Oil Pressure	3	2	~~2~~ 3	1	7~~#~~ D
16.b		B. Turbine Stop Valve Closure	4	4	~~3~~ 4 per train	1	6~~#~~ D
17	19.	Safety Injection Input from ESF	2	1	2	1, 2	1 J, P
11	20.	Reactor Coolant Pump Breaker Position Trip					
Footnote (e)		Above P-7	1/breaker	2	1/breaker ~~per operating loop~~	1	11 D
19, 20	21.	Reactor Trip Breakers	2	1	2	1, 2 3*, 4*, 5*	M, P 13, 15 K, P 14 B, Q
21	22.	Automatic Trip Logic	2	1	2	1, 2 3*, 4*, 5*	1 J, P 14 B, Q

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ITS 3.3.1

A.1

ITS

Table 3.3.1-1

TABLE 3.3-1 (Continued)

TABLE NOTATION

MODES 3, 4, and 5

A.18

LA.3

or one or more rods not fully inserted

M.1

Footnote (a) * With the reactor trip system breakers in the closed position and the control rod drive system capable of rod withdrawal.

A.6

The provisions of Specification 3.0.4 are not applicable.

A.9

Footnote (d) ## High voltage to detector may be de-energized above P-6.

LA.4

ACTION STATEMENTS

Add proposed Required Action J.1

L.6

ACTION J
ACTION P
ACTION J Note

ACTION 1 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, be in HOT STANDBY within 6 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing PER Specification 4.3.1.1.1.

L.6

ACTIONS C and D

ACTION 2 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

Required Actions C.1 and D.1

a. The inoperable channel is placed in the tripped condition within 6 hours.

4

ACTIONS C and D Note

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable channel may be bypassed for up to 2 hours for surveillance testing of the other channels per Specification 4.3.1.1.1.

A.11

L.4

A.11

c. Either, THERMAL POWER is restricted to ≤ 75% of RATED THERMAL POWER and the Power Range, Neutron Flux trip setpoint is reduced to ≤ 85% of RATED THERMAL POWER within 4 hours; or, the QUADRANT POWER TILT RATIO is monitored at least once per 12 hours per Specification 4.2.4.c.

Add proposed ACTION P

M.4

ACTION E

ACTION 3 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

ITS 3.3.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-1 (Continued)

A.8

Function 4 Applicability

a. ~~Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.~~

Add proposed Required Actions E.1 and E.2

ACTION E

b. ~~Above P-6 but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER.~~

L.9

M.5

c. ~~Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.~~

M.11

Add proposed ACTION F

ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

ACTIONS G, I, Q

Add proposed Required Action G.1 for MODE 2 below P-6

Add proposed Required Actions I.1, Q.1 and Q.2 for MODES 3[(a)], 4[(a)], 5[(a)]

M.2

a. ~~Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.~~

Function 5 Applicability

b. Above P-6, operation may continue.

Add proposed ACTION H

M.6

ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement:

a. Immediately suspend operations involving positive reactivity changes except addition of water from the RWST, provided the boron concentration in the RWST is greater than the minimum required by Specification 3.1.2.8.b.2 (MODES 3 or 4) or 3.1.2.7.b.2 (MODE 5), and

b. Verify compliance with the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable, within 1 hour and at least once per 12 hours thereafter, and

c. Close the isolation valves for unborated water sources to the chemical and volume control system within 1 hour. In MODE 5, if the RWST boron concentration is less than the reactor coolant system boron concentration and less than the boron concentration required by Specification 3.1.2.7.b.2, isolate the RWST from the reactor coolant system within 1 hour.

See ITS 3.3.8

ACTION D

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

L.6

6

a. The inoperable channel is placed in the tripped condition within ~~1~~ hour.

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable CHANNEL may be bypassed for up to ~~2~~ hours for surveillance testing of the other channels per Specification 4.3.1.1.1.

4

Add proposed ACTIONS N and P

M.7

ACTION D

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed ~~until performance of the next required CHANNEL FUNCTIONAL TEST~~ provided the inoperable channel is placed in the tripped condition within ~~1~~ hour.

L.7

6

Add proposed ACTIONS N and P

M.7

Add proposed Note to ACTION D

L.6

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ITS 3.3.8

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-1 (Continued)

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6 but below 5% of RATED THERMAL POWER, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above 5% of RATED THERMAL POWER

c. Above 5% of RATED THERMAL POWER, POWER OPERATION may continue.

ACTION 4 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement and with the THERMAL POWER level:

a. Below P-6, restore the inoperable channel to OPERABLE status prior to increasing THERMAL POWER above the P-6 Setpoint.

b. Above P-6, operation may continue.

See ITS 3.3.1

ACTION A ACTION 5 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement: Add proposed Note 1 to Required Action A.1 (L.1)

a. Immediately suspend operations involving positive reactivity changes except addition of water from the RWST, provided the boron concentration in the RWST is greater than [or equal to (L.2)] the ~~minimum required by Specification 3.1.2.8.b.2 (MODES 3 or 4) or 3.1.2.7.b.2 (MODE 5)~~ [required limit (LA.2)], and

b. Verify compliance with ~~the SHUTDOWN MARGIN requirements of Specification 3.1.1.1 or 3.1.1.2, as applicable,~~ [SR 3.1.1.1 (A.1)] within 1 hour and at least once per 12 hours thereafter, and

c. Close the isolation valves for unborated water sources ~~to the chemical and volume control system~~ (LA.3) within 1 hour. In MODE 5, if the RWST boron concentration is less than the ~~reactor coolant system boron concentration and less than the boron concentration required by Specification 3.1.2.7.b.2~~ [required limit (LA.2)], isolate the RWST ~~from the reactor coolant system~~ (LA.3) within 1 hour.

ACTION 6 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour.

b. The Minimum Channels OPERABLE requirement is met; however, the inoperable CHANNEL may be bypassed for up to 2 hours for surveillance testing of the other channels per Specification 4.3.1.1.1.

ACTION 7 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

See ITS 3.3.1

ITS 3.3.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-1(Continued)

L.6

6

ACTION D — ACTION 11 - With less than the Minimum Number of Channels OPERABLE, operation may continue provided the inoperable channel is placed in the tripped condition within ~~1~~ hours.

Add proposed ACTION O — M.7

ACTION B, ACTION P, ACTION Q — ACTION 12 - With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or be in HOT STANDBY within the next 6 hours and/or open the reactor trip breakers.

Add proposed Required Actions Q.1 and Q.2 — L.12

ACTION M, ACTION P — ACTION 13 - With one of the diverse trip features (Undervoltage or shunt trip attachment) inoperable, restore it to OPERABLE status within 48 hours or declare the breaker inoperable and apply ACTION 1. The breaker shall not be bypassed while one of the diverse trip features is inoperable except for the time required for performing maintenance to restore the breaker to OPERABLE status.

M.9

ACTION B, ACTION Q — ACTION 14 - With the number of OPERABLE channels one less than the Minimum Channels OPERABLE requirement, restore the inoperable channel to OPERABLE status within 48 hours or ~~open the~~ reactor trip breakers within the next hour.

Add proposed Required Actions Q.1 and Q.2 — L.13

ACTION K, ACTION P, ACTION K Note — ACTION 15 - With the number of OPERABLE Reactor Trip Breaker channels one less than required by the Minimum Channels OPERABLE requirement for reasons other than an inoperable diverse trip feature, restore the inoperable channel to OPERABLE status within 24 hours or be in HOT STANDBY within the following 6 hours. One channel may be bypassed for up to 4 hours for surveillance testing per Specification 4.3.1.1.1, provided the other channel is OPERABLE.

REACTOR TRIP SYSTEM INTERLOCKS

	DESIGNATION	CONDITION AND SETPOINT	FUNCTION
Table 3.3.1-1 Function 18.a	P-6	With 2 of ~~2~~ Intermediate Range Neutron Flux Channels < 6 X 10^{-11} amps.	~~P-6 prevents or defeats the manual block of source range reactor trip.~~

1 per train — LA.5

Add proposed Applicability — A.19

Add proposed ACTIONS L, P, and Q — L.8

ITS 3.3.1

ITS

A.1

A.21

TABLE 3.3-1 (Continued)

1 per train

ITS	DESIGNATION	CONDITION AND SETPOINT	FUNCTION
Table 3.3.1-1 Functions 18.b, 18.d, 18.e	P-7	With 2 of 4 Power Range Neutron Flux Channels ≥ 11% of RATED THERMAL POWER or 1 of 2 Pressure before the First Stage channels ≥ 51 psig.	P-7 prevents or defeats the automatic block of reactor trip on: Low flow in more than one primary coolant loop, reactor coolant pump under-voltage and under-frequency, turbine trip, pressurizer low pressure, and pressurizer high level. Low flow in a particular loop can be evidenced by either a detected low flow or by the opening of the reactor coolant pump breaker.
Table 3.3.1-1 Function 18.c	P-8	With 2 of 4 Power Range Neutron Flux channels ≥ 31% of RATED THERMAL POWER.	P-8 prevents or defeats the automatic block of reactor trip caused by a low coolant flow condition in a single loop.
Table 3.3.1-1 Function 18.d	P-10	With 3 of 4 Power Range Neutron Flux channels < 9% of RATED THERMAL POWER.	P-10 prevents or defeats the manual block of: Power range low setpoint reactor trip, intermediate range reactor trip, and intermediate range rod stops. Provides input to P-7.

Add proposed Applicability

A.19

LA.5

Add proposed Applicability

A.19

Add proposed ACTIONS L, O, and P

L.8

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-2

Table Intentionally Deleted

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A.1

TABLE 3.3-2 (Continued)

Table Intentionally Deleted

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ITS 3.3.1

ITS

Table 3.3.1-1

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.1

SR 3.3.1.2, SR 3.3.1.3, SR 3.3.1.9, SR 3.3.1.13, SR 3.3.1.14, SR 3.3.1.15

SR 3.3.1.8, SR 3.3.1.10, SR 3.3.1.17

ITS		FUNCTIONAL UNIT	CHANNEL CHECK (SR 3.3.1.1)	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1	1.	Manual Reactor Trip				
		A. Shunt Trip Function	N.A.	N.A.	S/U(1)(10) -17	1, 2, 3*, 4*, 5*
		B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)(10) -17	1, 2, 3*, 4*, 5*
2.a, 2.b	2.	Power Range, Neutron Flux	S -1	2-D(2,8), M(3,8), -3 and Q(6,8) -9	8 Q and S/U(11)	1, 2 and *
3.a	3.	Power Range, Neutron Flux, High Positive Rate	N.A.	R(6) -14	Q -8	1, 2
3.b	4.	Power Range, Neutron Flux, High Negative Rate	N.A.	R(6) -14	Q -8	1, 2
4	5.	Intermediate Range, Neutron Flux	S -1	R(6,8) -14	S/U(17) -10	1, 2, and *
5	6.	Source Range, Neutron Flux	S -1	R(6,14) -14	10 M(14) and S/U(1)	2(7), 3(7), 4 and 5
6	7.	Overtemperature ΔT	S -1	R(9) -15	SA -10	1, 2
7	8.	Overpower ΔT	S -1	R(9) -15	SA -10	1, 2
8.a	9.	Pressurizer Pressure -- Low	S -1	R -13	SA -10	1, 2
8.b	10.	Pressurizer Pressure -- High	S -1	R -13	SA -10	1, 2
9	11.	Pressurizer Water Level -- High	S -1	R -13	SA -10	1, 2
10	12.	Loss of Flow-Single Loop	S -1	R(8) -13	SA -10	1

LA.9 L.15 A.20 L.14 LA.9 L.5 A.7 L.16 M.12 L.5 A.8 L.16 A.18 L.18 M.15 A.10 A.22 A.16 L.2 M.13 M.15 LA.6

31 effective full power days

24 months

Add proposed SR 3.3.1.10 Note 1

184 days

184 days

Add proposed SR 3.3.1.7

Add proposed Note 1 to SR 3.3.1.15

24 months

ITS 3.3.8

ITS

TABLE 4.3-1

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A3

FUNCTIONAL UNIT	SR 3.3.8.1 CHANNEL CHECK	SR 3.3.8.2 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
1. Manual Reactor Trip				
A. Shunt Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
B. Undervoltage Trip Function	N.A.	N.A.	S/U(1)(10)	1, 2, 3*, 4*, 5*
2. Power Range, Neutron Flux	S	D(2,8), M(3,8), and Q(6,8)	Q and S/U(1)	1, 2 and *
3. Power Range, Neutron Flux, High Positive Rate	N.A.	R(6)	Q	1, 2
4. Power Range, Neutron Flux, High Negative Rate	N.A.	R(6)	Q	1, 2
5. Intermediate Range, Neutron Flux	S	R(6,8)	S/U(17)	1, 2, and *
6. Source Range, Neutron Flux	S -1	2- R(6, 14)	M(14) and S/U(1)	2(7), 3(7), 4 and 5
7. Overtemperature ΔT	S	R(9)	SA	1, 2
8. Overpower ΔT	S	R(9)	SA	1, 2
9. Pressurizer Pressure -- Low	S	R	SA	1, 2
10. Pressurizer Pressure -- High	S	R	SA	1, 2
11. Pressurizer Water Level -- High	S	R	SA	1, 2
12. Loss of Flow-Single Loop	S	R(8)	SA	1

SR 3.3.8.1, SR 3.3.8.2, Applicability

See ITS 3.3.1

See ITS 3.3.1

24 months

A.1

L.3

See ITS 3.3.1

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ITS 3.3.1

ITS

Table 3.3.1-1

SR 3.3.1.4, SR 3.3.1.5, SR 3.3.1.6, SR 3.3.1.10, SR 3.3.1.11, SR 3.3.1.17, SR 3.3.1.18

TABLE 4.3-1 (Continued)

REACTOR TRIP SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	FUNCTIONAL UNIT	SR 3.3.1.1 CHANNEL CHECK	SR 3.3.1.12, SR 3.3.1.13 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
10	13. Loss of Flow-~~Two Loops~~	S -1	R(8) -13	N.A.	1
14	14. Steam Generator Water Level -- Low-Low	S -1	R -13	SA -10 (184 days)	1, 2
15	15. Steam/Feedwater Flow Mismatch and Low Steam Generator Water Level	S -1	R -13	SA -10	1, 2
12	16. Undervoltage-Reactor Coolant Pumps	N.A.	R -12 (184 days)	M -11 (Add proposed Note to SR 3.3.1.11)	1
13	17. Underfrequency-Reactor Coolant Pumps	N.A.	R -13	M -11	1
	18. Turbine Trip		(Add proposed SR 3.3.1.13)	(Add proposed Note to SR 3.3.1.18)	
16.a	A. Low Fluid Oil Pressure	N.A.	N.A.	S/U(1) -18	1 2
16.b	B. Turbine Stop Valve Closure	N.A.	N.A.	S/U(1) -18	1 2
17	19. Safety Injection Input from EFS	N.A.	N.A.	6- Q (4)(15) -17	1, 2
11	20. Reactor Coolant Pump Breaker Position Trip	N.A.	N.A. (24 months)	24 months R -17	N.A.
19	21. Reactor Trip Breaker				
19, 20	A. Shunt Trip Function	N.A.	N.A.	4- 2 Months (5)(11) and S/U(1)(11)	1, 2, 3*, 4*, 5*
19, 20	B. Undervoltage Trip Function	N.A.	N.A.	4- 2 Months (5)(11) and S/U(1)(11)	1, 2, 3*, 4*, 5*
21	22. Automatic Trip Logic	N.A	N.A.	Q (15) -5	1, 2, 3*, 4*, 5*
19 Footnote (g)	23. Reactor Trip Bypass Breaker	N.A.	N.A.	4- 2 Months (5)(12) and 17- S/U(1)(13) (24 months)	1, 2, 3*, 4*, 5*

A.1 A.20 A.22 L.18 A.3 A.10 M.14 A.15 A.3 A.10 L.10 L.11 LA.9 L.16 A.13 LA.9 L.14 L.2 M.15 M.16 LA.6 A.12 A.13

COOK NUCLEAR PLANT-UNIT 2 Page 3/4 3-12 AMENDMENT ~~86~~, ~~107~~, 260

A.1

ITS 3.3.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-1 (Continued)

NOTATION

ITS			
Table 3.3.1-1 Footnote (a)	*	-	~~With the reactor trip system breakers closed and~~ the control rod drive system capable of rod withdrawal. or one or more rods not fully inserted
SR 3.3.1.18	(1)	-	If not performed in previous ~~7~~ 31 days.
SR 3.3.1.2	(2)	-	Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent.
SR 3.3.1.3	(3)	-	Compare incore to excore axial offset above 15% of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.
SR 3.3.1.17	(4)	-	Manual ESF functional input check every ~~18~~ months. 24 months
SR 3.3.1.4	(5)	-	Each train tested at least every other 62 days.
SR 3.3.1.9, SR 3.3.1.14	(6)	-	Neutron detectors may be excluded from CHANNEL CALIBRATION.
Table 3.3.1-1 Function 5 Applicability Footnote (d)	(7)	-	Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.
Note 2 for SR 3.3.1.2 and SR 3.3.1.3	(8)	-	The provisions of Specification 4.0.4 are not applicable.
SR 3.3.1.15 Note 2	(9)	-	The provisions of Specification 4.0.4 are not applicable ~~for f_1 (delta I) and f_2 (delta I) penalties, or for~~ measurement of delta T. (See also Table 2.2-1).
	(10)	-	~~The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).~~
	(11)	-	~~The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.~~
SR 3.3.1.4	(12)	-	~~Local manual shunt trip~~ prior to placing breaker in service.
	(13)	-	~~Automatic Undervoltage Trip.~~
SR 3.3.1.10 Note 2	(14)	-	The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.
SR 3.3.1.5, SR 3.3.1.6	(15)	-	Each train tested at least every other 92 days.
	(16)	-	Not Used.
SR 3.3.1.10	(17)	-	If not performed in previous 184 days.

LA.3 M.1 L.10 L.16 L.14 L.11 M.15 M.3 M.13 A.14 M.10 LA.9 LA.9 LA.9 L.17 M.15 M.12

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-1 (Continued)

NOTATION

*	-	With the reactor trip system breakers closed and the control rod drive system capable of rod withdrawal.	
(1)	-	If not performed in previous 7 days.	
(2)	-	Heat balance only, above 15% of RATED THERMAL POWER. Adjust channel if absolute difference greater than 2 percent.	See ITS 3.3.1
(3)	-	Compare incore to excore axial offset above 15% of RATED THERMAL POWER. Recalibrate if absolute difference greater than or equal to 3 percent.	
(4)	-	Manual ESF functional input check every 18 months.	
(5)	-	Each train tested at least every other 62 days.	

Note to SR 3.3.8.2

(6) - Neutron detectors may be excluded from CHANNEL CALIBRATION.

(7)	-	Below P-6 (BLOCK OF SOURCE RANGE REACTOR TRIP) setpoint.	
(8)	-	The provisions of Specification 4.0.4 are not applicable.	
(9)	-	The provisions of Specification 4.0.4 are not applicable for f_1 (delta I) and f_2 (delta I) penalties, or for measurement of delta T. (See also Table 2.2-1).	
(10)	-	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip circuits for the Manual Reactor Trip Function. The test shall also verify the OPERABILITY of the Bypass Breaker trip circuit(s).	See ITS 3.3.1
(11)	-	The CHANNEL FUNCTIONAL TEST shall independently verify the OPERABILITY of the undervoltage and shunt trip attachments of the Reactor Trip Breakers.	
(12)	-	Local manual shunt trip prior to placing breaker in service.	
(13)	-	Automatic Undervoltage Trip.	
(14)	-	The provisions of Specification 4.0.4 are not applicable when leaving MODE 1. In such an event, the calibration and/or functional test shall be performed within 24 hours after leaving MODE 1.	
(15)	-	Each train tested at least every other 92 days.	
(16)	-	Not Used.	
(17)	-	If not performed in previous 184 days.	

A.1

ITS 3.3.2

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.2 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4.~~ LA.1

APPLICABILITY: As shown in Table 3.3-3.

ACTION: Add proposed ACTIONS Note A.2

ACTIONS A through F a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Trip Setpoint value.~~ LA.1

ACTION A b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

A.10

SR Table Note 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. L.1

24 L.2

SR 3.3.2.2, SR 3.3.2.10, SR 3.3.2.12 4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per ~~18~~ months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. L.3

Add proposed Note to SR 3.3.2.13 L.4

24

SR 3.3.2.13 4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of ~~each~~ ESFAS function shall be demonstrated to be within the limit at least once per ~~18~~ months. ~~Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ A.3

on a STAGGERED TEST BASIS A.4

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ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.5 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4. — See ITS 3.3.2 — LA.1

APPLICABILITY: As shown in Table 3.3-3.

ACTION: ← Add proposed ACTIONS Note — A.3

ACTION A a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status with the trip setpoint adjusted consistent with the Trip Setpoint value. — LA.1

ACTION A b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR 3.3.5.1, SR 3.3.5.2, SR 3.3.5.3, SR 3.3.5.4, SR 3.3.5.5 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, ~~CHANNEL FUNCTIONAL TEST~~ and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. — A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation. — See ITS 3.3.2

4.3.2.1.3 ~~The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ — A.5

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.2 ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 — 3.3.2.1 The Engineered Safety Feature Actuation System (ESFAS) instrumentation channels and interlocks shown in Table 3.3-3 shall be OPERABLE ~~with their trip setpoints set consistent with the values shown in the Trip Setpoint column of Table 3.3-4.~~

See ITS 3.3.2

LA.3

APPLICABILITY: As shown in Table 3.3-3.

ACTION:

Add proposed ACTIONS Note — A.3

ACTIONS B and C — a. With an ESFAS instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3-4, declare the channel inoperable and apply the applicable ACTION requirement of Table 3.3-3 until the channel is restored to OPERABLE status ~~with the trip setpoint adjusted consistent with the Trip Setpoint value.~~ — LA.3

ACTIONS B and C — b. With an ESFAS instrumentation channel inoperable, take the ACTION shown in Table 3.3-3.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.2.1.1 Each ESFAS instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION, CHANNEL FUNCTIONAL TEST COT and TRIP ACTUATING DEVICE OPERATIONAL TEST operations for the MODES and at the frequencies shown in Table 4.3-2. — A.4

4.3.2.1.2 The logic for the interlocks shall be demonstrated OPERABLE during the automatic actuation logic test. The total interlock function shall be demonstrated OPERABLE at least once per 18 months during CHANNEL CALIBRATION testing of each channel affected by interlock operation.

See ITS 3.3.2

~~4.3.2.1.3 The ENGINEERED SAFETY FEATURES RESPONSE TIME of each ESFAS function shall be demonstrated to be within the limit at least once per 18 months. Each test shall include at least one logic train such that both logic trains are tested at least once per 36 months and one channel per function such that all channels are tested at least once per N times 18 months where N is the total number of redundant channels in a specific ESFAS function as shown in the "Total No. of Channels" Column of Table 3.3-3.~~ — A.5

ITS 3.3.2

A.1

ITS

Table 3.3.2-1

TABLE 3.3-3

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.2 A.5 LA.3 A.6 A.15

ITS	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
1	1. SAFETY INJECTION, ~~TURBINE TRIP, FEEDWATER ISOLATION, AND MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS~~					
1.a	a. Manual Initiation	---------- See Functional Unit 9 ----------				
1.b	b. Automatic Actuation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	13 C, I
1.c	c. Containment Pressure-High	~~3~~	~~2~~	~~2~~ 3	1, 2, 3	~~14#~~ D
1.d	d. Pressurizer Pressure-Low	~~3~~	~~2~~	~~2~~ 3	1, 2, 3#	~~14#~~ D
1.e.(2)	e. Differential Pressure Between Steam Lines-High					
	~~Four Loops Operating~~	~~3/steam line~~	~~2/steam line any steam line~~	~~2~~ 3/steam line	1, 2, 3##	~~14#~~ D
	~~Three Loops Operating~~	~~3/operating steam line~~	~~1###/steam line, any operating steam line~~	~~2/operating steam line~~	~~3##~~	~~15~~
1.e.(1)	f. Steam Line Pressure-Low					
	~~Four Loops Operating~~	~~1 pressure/loop~~	~~2 pressures any loops~~	1 ~~pressure any 3 loops~~ per steam line	1, 2, 3##	~~14#~~ D
	~~Three Loops Operating~~	~~1 pressure/operating loop~~	~~1###/pressure in any operating loop~~	~~1 pressure in any 2 operating loops~~	~~3##~~	~~15~~

ITS 3.3.2

A.1

ITS

Table 3.3.2-1

TABLE 3.3-3 (Continued)
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.2

A.5

	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION	
	2. CONTAINMENT SPRAY						
2.a	a. Manual	See Functional Unit 9					LA.2
2.b	b. Automatic Actuation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	~~13~~ C, I	
2.c	c. Containment Pressure--High-High	~~4~~	~~2~~	~~3~~ 4	1, 2, 3	~~16~~ E	A.5

ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LA.2

A.5

A.7

LA.2

ITS	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
	3. CONTAINMENT ISOLATION					
	a. Phase "A" Isolation					
3.a.(1)	1) Manual	See Functional Unit 9				
	Add proposed Function 3.a.(2)					
3.a.(3)	2) From Safety Injection Automatic Actuation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	~~13~~ C, I
	b. Phase "B" Isolation					
3.b.(1)	1) Manual	See Functional Unit 9				
3.b.(2)	2) Automatic Actuation Logic	~~2~~	~~1~~	2	1, 2, 3, 4	~~13~~ C, I
3.b.(3)	3) Containment Pressure – High-High	~~4~~	~~2~~	~~3~~ 4	1, 2, 3	~~16~~ E
	c. Purge and Exhaust Isolation					
	1) Manual	See Functional Unit 9				
	2) Containment Radioactivity-* High Train A (VRS-2101, ERS-2301, ERS-2305)	3	1	2	1, 2, 3, 4	17
	3) Containment Radioactivity-* High Train B (VRS-2201, ERS-2401, ERS-2405)	3	1	2	1, 2, 3, 4	17

LA.2

A.5

See ITS 3.3.6

*This specification only applies during PURGE.

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
	3. CONTAINMENT ISOLATION					
	a. Phase "A" Isolation					
	1) Manual	See Functional Unit 9				
	2) From Safety Injection Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
	b. Phase "B" Isolation					
	1) Manual	See Functional Unit 9				
	2) Automatic Actuation Logic	2	1	2	1, 2, 3, 4	13
	3) Containment Pressure -- High-High	4	2	3	1, 2, 3	16
	c. Purge and Exhaust Isolation					
Function 1	1) Manual	See Functional Unit 9				
Function 3	2) Containment Radioactivity-* High Train A ~~(VRS-2101, ERS-2301, ERS-2305)~~	~~3~~	~~1~~	~~2~~	1, 2, 3, 4	17 C
Function 3	3) Containment Radioactivity-* High Train B ~~(VRS-2201, ERS-2401, ERS-2405)~~	~~3~~	~~1~~	~~2~~	1, 2, 3, 4	17 C

See ITS 3.3.2

2 per train

A.6

LA.1

L.4

Add proposed Function 2

M.2

Add proposed Function 4

M.3

*This specification only applies during PURGE.

M.1

ITS 3.3.2

A.1

ITS

Table 3.3.2-1

TABLE 3.3-3 (Continued)
ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

ITS	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
	4. STEAM LINE ISOLATION					
4.a	a. Manual		---- See Functional Unit 9 ----			
4.b	b. Automatic Actuation Logic	2	1	2	1, 2, 3	13 C, H
4.c	c. Containment Pressure--High-High	4	2	~~3~~ 4	1, 2, 3	16 E
4.e	d. Steam Flow in Two Steam Lines--High					
	~~Four Loops Operating~~	2/steam line	1/steam line any 2 steam lines	~~1~~ 2/steam line	1, 2, 3##	14 D
	~~Three Loops Operating~~	~~2/operating steam line~~	~~1###/any operating steam line~~	~~1/ operating steam line~~	~~3##~~	~~15~~
	COINCIDENT WITH					
	T_{avg} -- Low-Low					
	~~Four Loops Operating~~	1 T_{avg}/loop	2 T_{avg} any loops	1 T_{avg} ~~any 3 loops~~ per loop	1, 2, 3##	14 D
	~~Three Loops Operating~~	~~1 T_{avg}/operating loop~~	~~1### T_{avg} in any operating loop~~	~~1 T_{avg} in any two operating loops~~	~~3##~~	~~13~~

LA.2

A.5

L.6

Add proposed Footnote (d)

LA.2

A.5

Add proposed Foonote (d)

L.6

A.5

A.6

Add proposed Footnote (d)

L.6

A.15

LA.2

L.6

Add proposed Footnote (d)

A.6

A.5

A.15

ITS 3.3.2

A.1

ITS

Table 3.3.2-1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURES ACTUATION SYSTEM INSTRUMENTATION

ITS	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION
4.d	e. Steam Line Pressure-Low					
	Four Loops Operating	1 pressure/loop	2 pressures any loops	1 pressure any 3 loops	1, 2, 3##	14# D
	Three Loops Operating	1 pressure/ operating loop	1### pressure in any operating loop	1 pressure in any 2 operating loops	3##	15
	5. TURBINE TRIP & FEEDWATER ISOLATION					
5.b	a. Steam Generator Water Level -- High-High	3/loop	2/loop in any operating loop	2/loop in each operating loop	1, 2, 3	14# D
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
6.c	a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any Stm. Gen.	2/Stm. Gen.	1, 2, 3	14# D
6.e	b. 4 kV Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3	14# B
	Pump Start		2/bus (T21A - Train B; T21D - Train A)			
	Valve Actuation (Both trains)		2/bus on (T21A & T21B or 2/busses T21C & T21D)			
6.d	c. Safety Injection	2	1	2	1, 2, 3	18* B,H
6.g	d. Loss of Main Feedwater Pumps	2	2	2	1, 2	18* B,G

REQUIRED

Add proposed Footnote (d)

per steam line

Add proposed Footnote (f)

3

per SG

Add proposed Function 5.a

Add proposed Function 5.c

3

Add proposed Functions 6.a and 6.b

LA.2 A.5 L.6 A.6 A.5 A.15 LA.2 L.7 A.6 A.5 L.8 A.12 A.8 L.16 A.6 L.15 L.21 A.5 LA.2 LA.2 A.13 L.17

ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION (LA.2)

ITS	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
	7. ~~TURBINE DRIVEN~~ AUXILIARY FEEDWATER PUMPS (A.5)					
6.c	a. Steam Generator Water Level – Low-Low	~~3/Stm. Gen.~~	~~2/Stm. Gen. any 2 Stm. Gen.~~	~~2~~ 3/Stm. Gen.	1, 2, 3	14 ~~[ ]~~ D (A.6)
6.f	b. Reactor Coolant Pump Bus Undervoltage	~~4-1/Bus~~	~~2~~	~~3~~ 1 per bus	1, 2, ~~[ ]~~ (L.18)	19 ~~[ ]~~ D
	Add proposed Function 6.a (A.13)					
	~~8. LOSS OF POWER~~ (L.17) See ITS 3.3.5					
	~~a. 4 kV Bus Loss of Voltage~~	~~3/Bus~~	~~2/Bus~~	~~2/Bus~~	~~1, 2, 3, 4~~	~~14*~~
	~~b. 4 kV Bus Degraded Voltage~~	~~3/Bus (T21A - Train B) (T21D – Train A)~~	~~2/Bus (T21A-Train B) (T21D–Train A)~~	~~2/Bus (T21A-Train B) (T21D–Train A)~~	~~1, 2, 3, 4~~	~~14*~~
	9. MANUAL (LA.2)					
1.a 5.c	a. Safety Injection (ECCS) Feedwater Isolation ~~Reactor Trip (SI)~~ (LA.3)	~~2/train~~	~~1/train~~	~~2~~ 1/train (L.20)	1, 2, 3, 4	18 B, I
3.a.(3)	Containment Isolation-Phase "A" ~~Containment Purge and Exhaust Isolation~~ (See ITS 3.3.6)					
6.d	Auxiliary Feedwater Pumps ~~Essential Service Water System~~ (LA.3)					
2.a 3.b.(1)	b. Containment Spray Containment Isolation - Phase "B" ~~Containment Purge and Exhaust Isolation~~ (See ITS 3.3.6) (LA.2)	~~1/train~~	~~1/train~~	1/train	1, 2, 3, 4	18 B, I
3.a.(1)	c. Containment Isolation - Phase "A" ~~Containment Purge and Exhaust Isolation~~ (See ITS 3.3.6) (LA.2)	~~1/train~~	~~1/train~~	1/train	1, 2, 3, 4	18 B, I
4.a	d. Steam Line Isolation	~~2/steam line (1 per train)~~	~~2/steam line (1 per train)~~	2/~~operating~~ steam line (1 per train) (LA.2)	1, 2, 3 Add proposed Footnote (d) (L.6)	20 B, J

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ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

ITS	FUNCTIONAL UNIT	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE MODES	ACTION	
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS						See ITS 3.3.2
	a. Steam Generator Water Level – Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*	
	b. Reactor Coolant Pump Bus Undervoltage	4-1/Bus	2	3	1, 2, 3	19*	
LCO 3.3.5, APPLICABILITY, and ACTION A	8. LOSS OF POWER						A.6
	a. 4 kV Bus Loss of Voltage	~~3/Bus~~	~~2/Bus~~	~~4~~ 3/Bus 3	1, 2, 3, 4 when associated DG is required to be OPERABLE by LCO 3.8.2	14*	M.1
	b. 4 kV Bus Degraded Voltage	~~3/Bus (T21A - Train B) (T21D – Train A)~~	~~2/Bus (T21A-Train B) (T21D-Train A)~~	~~2/Bus~~ 3 train (T21A-Train B) (T21D-Train A)	1, 2, 3, 4	14*	A.7, LA.2
	9. MANUAL						
	a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation-Phase "A"	2/train	1/train	2/train	1, 2, 3, 4	18	
	Containment Purge and Exhaust Isolation						See ITS 3.3.6
	Auxiliary Feedwater Pumps Essential Service Water System						See ITS 3.3.2
	b. Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation	1/train	1/train	1/train	1, 2, 3, 4	18	See ITS 3.3.2 and ITS 3.3.6
	c. Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation	1/train	1/train	1/train	1, 2, 3, 4	18	
	d. Steam Line Isolation	2/steam line (1 per train)	2/steam line (1 per train)	2/operating steam line (1 per train)	1, 2, 3	20	See ITS 3.3.2

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.1

A.6

FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	3/Stm. Gen.	2/Stm. Gen. any 2 Stm. Gen.	2/Stm. Gen.	1, 2, 3	14*
b. Reactor Coolant Pump Bus Undervoltage	4-1/Bus	2	3	1, 2, 3	19*
8. LOSS OF POWER					
a. 4 kV Bus Loss of Voltage	3/Bus	2/Bus	2/Bus	1, 2, 3, 4	14*
b. 4 kV Bus Degraded Voltage	3/Bus (T21A - Train B) (T21D -- Train A)	2/Bus (T21A-Train B) (T21D--Train A)	2/Bus (T21A-Train B) (T21D--Train A)	1, 2, 3, 4	14*
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation-Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	2/train	1/train	2/train	1, 2, 3, 4	18
b. ~~Containment Spray Containment Isolation - Phase "B"~~ Containment Purge and Exhaust Isolation	~~1/train~~	~~1/train~~	~~1/train~~ 1 per train	1, 2, 3, 4	18 B
c. ~~Containment Isolation - Phase "A"~~ Containment Purge and Exhaust Isolation	~~1/train~~	~~1/train~~	~~1/train~~	1, 2, 3, 4	18 B
d. Steam Line Isolation	2/steam line (1 per train)	2/steam line (1 per train)	2/operating steam line (1 per train)	1, 2, 3	20

See ITS 3.3.2

See ITS 3.3.5

See ITS 3.3.2

Function 4

Function 1

Function 1

L.10

LA.1

LA.2

See ITS 3.3.2

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ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-3 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION

LA.2 A.5

ITS	FUNCTIONAL UNIT	~~TOTAL NO. OF CHANNELS~~	~~CHANNELS TO TRIP~~	~~MINIMUM~~ REQUIRED CHANNELS OPERABLE	APPLICABLE MODES	ACTION
7.a	e. Containment Air Recirculation Fan	~~1/train~~	~~1/train~~	1/train	1, 2, 3, 4	~~18~~ B, I
	10. CONTAINMENT AIR RECIRCULATION FAN					
7.a	a. Manual	See Functional Unit 9				
7.b	b. Automatic Actuation Logic	~~2~~	~~1~~	2	1, 2, 3	~~13~~ C, H
7.c	c. Containment Pressure - High	~~3~~	~~2~~	~~2~~ 3	1, 2, 3	~~14~~ D

A.6 A.5 LA.2

A.1

ITS

Table 3.3.2-1

TABLE 3.3-3 (Continued)
TABLE NOTATION

Footnote (a) *Trip function may be bypassed in this MODE below P-11.

Footnote (b) **Trip function may be bypassed in this MODE below P-12.

***The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode.

****Manually trip all bistables which would be automatically tripped in the event pressure in the associated active loop were less than the pressure in the inactive loop. For example, if loop 1 is the inactive loop then the bistables which indicate low pressure in loops 2, 3, and 4 relative to loop 1 should be tripped.

A.15

ACTION B Note *The provisions of Specification 3.0.4 are not applicable. A.6

Add proposed Required Action C.1

ACTION STATEMENTS

L.9

ACTION C ACTION 13 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 6 hours and in

ACTIONS H and I COLD SHUTDOWN within the following 30 hours; however, one

ACTION C Note channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1. 4

M.9

L.5

Add proposed ACTION D Note

ACTION D ACTION 14 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour. 6

L.10

L.5

Add proposed ACTIONS G, H, and I

M.4

ACTION 15 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT SHUTDOWN within the following 12 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

A.15

ACTION E ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1. 4

within 6 hours

L.11

L.5

Add proposed ACTIONS H and I

M.4

ITS 3.3.5

A.1

ITS

TABLE 3.3-3 (Continued)
TABLE NOTATION

*Trip function may be bypassed in this MODE below P-11.

**Trip function may be bypassed in this MODE below P-12.

***The channel(s) associated with the protective functions derived from the out of service Reactor Coolant Loop shall be placed in the tripped mode. See ITS 3.3.2

****Manually trip all bistables which would be automatically tripped in the event pressure in the associated active loop were less than the pressure in the inactive loop. For example, if loop 1 is the inactive loop then the bistables which indicate low pressure in loops 2, 3, and 4 relative to loop 1 should be tripped.

*The provisions of Specification 3.0.4 are not applicable.

ACTION STATEMENTS

ACTION 13 - With the number of OPERABLE Channels one less than the Total Number of Channels, be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours; however, one channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION A

ACTION 14 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed until performance of the next required CHANNEL FUNCTIONAL TEST provided the inoperable channel is placed in the tripped condition within 1 hour.

L.1

L.2 6 hours

L.3 Add proposed ACTION B

L.4 Add proposed ACTION C

ACTION 15 - With a channel associated with an operating loop inoperable, restore the inoperable channel to OPERABLE status within 2 hours or be in HOT SHUTDOWN within the following 12 hours; however, one channel associated with an operating loop may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1.

ACTION 16 - With the number of OPERABLE Channels one less than the Total Number of Channels, operation may proceed provided the inoperable channel is placed in the bypassed condition and the Minimum Channels OPERABLE requirement is met; one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.1. See ITS 3.3.2

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ITS 3.3.2

A.1

ITS

TABLE 3.3-3 (Continued)

ACTION 17 - With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge and exhaust valves are maintained closed. — See ITS 3.3.6

ACTION B — ACTION 18 - With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or be in at

ACTIONS G, H, and I — least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. — M.9 — A.14

ACTION D — ACTION 19 - With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:

a. The inoperable channel is placed in the tripped condition within 1 hour. 6 — L.5

b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1. 4

Add proposed ACTION J — M.4

ACTION B — ACTION 20 - With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare

ACTION J — the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.

A.1

ITS 3.3.6

ITS

two or more

L.1

TABLE 3.3-3 (Continued)

Add proposed ACTION A

ITS			
ACTION C	ACTION 17 -	With less than the Minimum Channels OPERABLE, operation may continue provided the containment purge and exhaust valves are maintained closed.	
ACTION B	ACTION 18 -	With the number of OPERABLE Channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours	
ACTION C		or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.	L.3
	ACTION 19 -	With the number of OPERABLE channels one less than the Total Number of Channels, STARTUP and/or POWER OPERATION may proceed provided the following conditions are satisfied:	
		a. The inoperable channel is placed in the tripped condition within 1 hour.	See ITS 3.3.2
		b. The Minimum Channels OPERABLE requirement is met; however, one additional channel may be bypassed for up to 2 hours for surveillance testing per Specification 4.3.2.1.	
	ACTION 20 -	With the number of OPERABLE channels one less than the Total Number of Channels, restore the inoperable channel to OPERABLE status within 48 hours or declare the associated valve inoperable and take the ACTION required by Specification 3.7.1.5.	

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ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

A.9

1 per train

ENGINEERED SAFETY FEATURES INTERLOCKS

LA.4

DESIGNATION	CONDITION AND SETPOINT	FUNCTION
P-11	~~With 2 of 3 pressurizer pressure channels~~ greater than or equal to 1915 psig.	~~P-11 prevents or defeats manual block of safety injection actuation on low pressurizer pressure.~~
P-12	~~With 2 of 4 T_{avg} channels~~ less than or equal to Setpoint. Setpoint greater than or equal to ~~541~~ 538.8 °F.	~~P-12 allows manual block of safety injection actuation on low steam line pressure. Causes steam line isolation on high steam flow. Affects steam dump blocks. With 3 of 4 T_{avg} channels above the reset point, prevents or defeats the manual block of safety injection actuation on low steam line pressure.~~

Add proposed Applicability

Add proposed ACTIONS F and H

Add proposed ACTIONS D and H

LA.4

L.22

L.12

Add proposed Function 8.a, including ACTIONS and Surveillance Requirement

M.5

ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-4

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.1

ITS		FUNCTIONAL UNIT	~~TRIP SETPOINTS~~	ALLOWABLE VALUES	
1	1.	SAFETY INJECTION, ~~TURBINE TRIP, FEEDWATER ISOLATION AND MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS~~			LA.3
1.a	a.	Manual Initiation	See Functional Unit 9		
1.b	b.	Automatic Actuation Logic	~~Not Applicable~~	Not Applicable	LA.1
1.c	c.	Containment Pressure-High	~~Less than or equal to 1.1 psig~~	Less than or equal to ~~1.2~~ 1.17 psig	M.11
1.d	d.	Pressurizer Pressure-Low	~~Greater than or equal to 1815 psig~~	Greater than or equal to ~~1805~~ 1765 psig	L.22
1.e.(2)	e.	Differential Pressure Between Steam Lines-High	~~Less than or equal to 100 psi~~	Less than or equal to 112 psi	
1.e.(1)	f.	Steam Line Pressure-Low	~~Greater than or equal to 600 psig steam line pressure~~	Greater than or equal to ~~585~~ 481.3 psig steam line pressure Add proposed Footnote (c)	L.22, M.1

A.1

ITS

Table 3.3.2-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

ITS	FUNCTIONAL UNIT	~~TRIP SETPOINTS~~	ALLOWABLE VALUES	
				LA.1
	2. CONTAINMENT SPRAY			
2.a	a. Manual Initiation	------------ See Functional Unit 9 -----------		LA.1
2.b	b. Automatic Actuation Logic	~~Not Applicable~~	Not Applicable	
2.c	c. Containment Pressure--High-High	~~Less than or equal to 2.9 psig~~	Less than or equal to ~~3.0~~ 2.97 psig	M.11
	3. CONTAINMENT ISOLATION			
	a. Phase "A" Isolation			LA.1
3.a.(1)	1. Manual	------------ See Functional Unit 9 -----------		
3.a.(3)	2. From Safety Injection Automatic Actuation Logic	~~Not Applicable~~	Not Applicable	
	b. Phase "B" Isolation			LA.1
3.b.(1)	1. Manual	------------ See Functional Unit 9 -----------		
3.b.(2)	2. Automatic Actuation Logic	~~Not Applicable~~	Not Applicable	
3.b.(3)	3. Containment Pressure-High-High	~~Less than or equal to 2.9 psig~~	Less than or equal to ~~3.0~~ 2.97 psig	M.11
	c. Purge and Exhaust Isolation			See ITS 3.3.6
	1. Manual	------------ See Functional Unit 9 -----------		
	2. Containment Radio-activity--High Train A (VRS-2101, ERS-2301, ERS-2305)	See Table 3.3-6	Not Applicable	
	3. Containment Radio-activity--High Train B (VRS-2201, ERS-2401, ERS-2405)	See Table 3.3-6	Not Applicable	

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

A.7

FUNCTIONAL UNIT	TRIP SETPOINTS	ALLOWABLE VALUES
2. CONTAINMENT SPRAY		
a. Manual Initiation	------------ See Functional Unit 9 -----------	
b. Automatic Actuation Logic	Not Applicable	Not Applicable
c. Containment Pressure--High-High	Less than or equal to 2.9 psig	Less than or equal to 3.0 psig
3. CONTAINMENT ISOLATION		
a. Phase "A" Isolation		
1. Manual	------------ See Functional Unit 9 -----------	
2. From Safety Injection Automatic Actuation Logic	Not Applicable	Not Applicable
b. Phase "B" Isolation		
1. Manual	------------ See Functional Unit 9 -----------	
2. Automatic Actuation Logic	Not Applicable	Not Applicable
3. Containment Pressure-High-High	Less than or equal to 2.9 psig	Less than or equal to 3.0 psig
c. Purge and Exhaust Isolation		
Function 1 — 1. Manual	------------ See Functional Unit 9 -----------	
Function 3 — 2. Containment Radioactivity--High Train A (VRS-2101, ERS-2301, ERS-2305)	See Table 3.3-6	~~Not Applicable~~
Function 3 — 3. Containment Radioactivity--High Train B (VRS-2201, ERS-2401, ERS-2405)	See Table 3.3-6	~~Not Applicable~~

See ITS 3.3.2

A.7

L.4

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ITS 3.3.2

A.1

ITS

Table 3.3.2-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.1

ITS	FUNCTIONAL UNIT	~~TRIP SETPOINTS~~	ALLOWABLE VALUES	
	4. STEAM LINE ISOLATION			
4.a	a. Manual	-------------- See Functional Unit 9 ----------		LA.1
4.b	b. Automatic Actuation Logic	~~Not Applicable~~	Not Applicable	
4.c	c. Containment Pressure--High-High	~~Less than or equal to 2.9 psig~~	Less than or equal to ~~3.0~~ 2.97 psig	M.11
4.e	d. Steam Flow in Two Steam Lines--High Coincident with Tavg--Low-Low	~~Less than or equal to a function defined as follows: A Delta-p corresponding to 1.6×10^6 lbs/hr steam flow between 0% and 20% load and then a Delta-p increasing linearly to a Delta-p corresponding to 4.5×10^6 lbs/hr at full load.~~	Less than or equal to a function defined as follows: A Delta-p corresponding to 1.75×10^6 lbs/hr steam flow between 0% and 20% load and then a Delta-p increasing linearly to a Delta-p corresponding to to 4.55×10^6 lbs/hr at full load.	
		~~T_{avg} greater than or equal to 541°F~~	T_{avg} greater than or equal to ~~539~~ 538.8°F	L.22
4.d	e. Steam Line Pressure--Low	~~Greater than or equal to 600 psig steam line pressure~~	Greater than or equal to ~~595~~ 481.3 psig steam line pressure	L.22
			Add proposed Footnote (c)	M.1
	5. TURBINE TRIP AND FEEDWATER ISOLATION			
5.b	a. Steam Generator Water Level--High-High	~~Less than or equal to 67% of narrow range instrument span each steam generator~~	Less than or equal to ~~68%~~ 71.6 ~~of narrow range instrument span~~ each steam generator	LA.5, L.22

COOK NUCLEAR PLANT - UNIT 2 3/4 3-25 AMENDMENT NO. 82, 105, 124, 137

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ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.1

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS		20.8 M.11
6.c	a. Steam Generator Water Level--Low-Low	~~Greater than or equal to 21% of narrow range instrument span each steam generator~~	Greater than or equal to ~~19.2~~ 20.8% ~~of narrow range instrument span~~ each steam generator LA.5
6.e	b. 4 kV Bus Loss of Voltage	~~3241 volts with a time delay of 2 seconds~~	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds
6.d	c. Safety Injection	~~Not Applicable~~	Not Applicable
6.g	d. Loss of Main Feedwater Pumps	~~Not Applicable~~	Not Applicable
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS		20.8 M.11
6.c	a. Steam Generator Water Level - - Low-Low	~~Greater than or equal to 21% of narrow range instrument span each steam generator~~	Greater than or equal to ~~19.2~~ 20.8% ~~of narrow range instrument span~~ each steam generator LA.5
6.f	b. Reactor Coolant Pump Bus Undervoltage	~~Greater than or equal to 2750 Volts -- each bus~~	Greater than or equal to 2725 Volts -- each bus
	8. LOSS OF POWER		See ITS 3.3.5
	a. 4 kV Bus Loss of Voltage	3241 volts with a time delay of 2 seconds	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds
	b. 4 kV Bus Degraded Voltage	3959 volts with a time delay of 9 seconds when a steam generator water level low-low or a safety injection signal is present	≥ 3910 volts and ≤ 4000 volts with a time delay of 9 ± 0.25 seconds when a steam generator water level low-low or a safety injection signal is present

ITS 3.3.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level--Low-Low	Greater than or equal to 21% of narrow range instrument span each steam generator	Greater than or equal to 19.2% of narrow range instrument span each steam generator	See ITS 3.3.2
	b. 4 kV Bus Loss of Voltage	3241 volts with a time delay of 2 seconds	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds	
	c. Safety Injection	Not Applicable	Not Applicable	
	d. Loss of Main Feedwater Pumps	Not Applicable	Not Applicable	
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMPS			
	a. Steam Generator Water Level - - Low-Low	Greater than or equal to 21% of narrow range instrument span each steam generator	Greater than or equal to 19.2% of narrow range instrument span each steam generator	
	b. Reactor Coolant Pump Bus Undervoltage	Greater than or equal to 2750 Volts -- each bus	Greater than or equal to 2725 Volts -- each bus	
	8. LOSS OF POWER			
SR 3.3.5.5	a. 4 kV Bus Loss of Voltage	~~3241 volts with a time delay of 2 seconds~~	≥ 3195 volts and ≤ 3280 volts with a time delay of 2 ± 0.2 seconds	LA.1
SR 3.3.5.3	b. 4 kV Bus Degraded Voltage	~~3959 volts with a time delay of 9 seconds when a steam generator water level low-low or a safety injection signal is present~~	≥ 3910 volts and ≤ 4000 volts with a time delay of 9 ± 0.25 seconds when a steam generator water level low-low or a safety injection signal is present	

ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS — LA.1

ITS	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
	9. Manual			
1.a	a. Safety Injection (ECCS)	N.A.	N.A.	
5.c	Feedwater Isolation	N.A.	N.A.	
	Reactor Trip (SI)	N.A.	N.A.	LA.3
3.a.(3)	Containment Isolation - Phase "A"	N.A.	N.A.	
	Containment Purge and Exhaust Isolation	N.A.	N.A.	See ITS 3.3.6
6.d	Auxiliary Feedwater Pumps	N.A.	N.A.	
	Essential Service Water System	N.A.	~~N.A.~~	LA.3, LA.1
2.a	b. Containment Spray	N.A.	N.A.	
3.b.(1)	Containment Isolation - Phase "B"	N.A.	N.A.	
	Containment Purge and Exhaust Isolation	N.A.	N.A.	See ITS 3.3.6
3.a.(1)	c. Containment Isolation - Phase "A"	N.A.	N.A.	LA.1
	Containment Purge and Exhaust Isolation	N.A.	N.A.	See ITS 3.3.6
4.a	d. Steam Line Isolation	N.A.	N.A.	LA.1
7.a	e. Containment Air Recirculation Fan	N.A.	N.A.	
	10. CONTAINMENT AIR RECIRCULATION FAN			
7.a	a. Manual	See Functional Unit 9		LA.1
7.b	b. Automatic Actuation Logic	Not Applicable	Not Applicable	
7.c	c. Containment Pressure - High	Less than or equal to 1.1 psig	Less than or equal to ~~1.2~~ 1.17 psig	M.11

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ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-4 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION TRIP SETPOINTS

LA.3

	FUNCTIONAL UNIT	TRIP SETPOINT	ALLOWABLE VALUES	
	9. Manual			
	a. Safety Injection (ECCS)	N.A.	N.A.	See ITS 3.3.2
	Feedwater Isolation	N.A.	N.A.	
	Reactor Trip (SI)	N.A.	N.A.	
	Containment Isolation - Phase "A"	N.A.	N.A.	
Function 4	Containment Purge and Exhaust Isolation	N.A.	N.A.	LA.3
	Auxiliary Feedwater Pumps	N.A.	N.A.	See ITS 3.3.2
	Essential Service Water System	N.A.	N.A.	
	b. ~~Containment Spray~~	~~N.A.~~	N.A.	
	~~Containment Isolation - Phase "B"~~	~~N.A.~~	N.A.	
Function 1	Containment Purge and Exhaust Isolation	~~N.A.~~	N.A.	LA.3
	c. ~~Containment Isolation - Phase "A"~~	~~N.A.~~	N.A.	
Function 1	Containment Purge and Exhaust Isolation	~~N.A.~~	N.A.	LA.2
	d. Steam Line Isolation	N.A.	N.A.	See ITS 3.3.2
	e. Containment Air Recirculation Fan	N.A.	N.A.	
	10. CONTAINMENT AIR RECIRCULATION FAN			
	a. Manual	See Functional Unit 9		
	b. Automatic Actuation Logic	Not Applicable	Not Applicable	
	c. *Containment Pressure - High*	*Less than or equal to 1.1 psig*	*Less than or equal to 1.2 psig*	

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ITS 3.3.2

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-5

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A.1

TABLE 3.3-5 (Continued)

Table Intentionally Deleted

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A.1

ITS 3.3.2

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-5 (Continued)

Table Intentionally Deleted

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A.1

TABLE 3.3-5 (Continued)

Table Intentionally Deleted

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ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 4.3-2
ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

A.10 LA.3 L.2 M.6 LA.6 M.8

ITS	FUNCTIONAL UNIT	SR 3.3.2.1 CHANNEL CHECK	SR 3.3.2.10 CHANNEL CALIBRATION	SR 3.3.2.2, SR 3.3.2.3, SR 3.3.2.5 CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
	1. SAFETY INJECTION, ~~TURBINE TRIP, FEEDWATER ISOLATION, AND MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS~~					
1.a	a. Manual Initiation			See Functional Unit 9		
1.b	b. Automatic Actuation Logic	N.A.	N.A.	Q (2)-2	N.A.	1, 2, 3, 4
1.c	c. Containment Pressure -- High	S -1	~~R~~ 24 months -10	SA ~~(3)~~ -5	N.A.	1, 2, 3
1.d	d. Pressurizer Pressure -- Low	S -1	~~R~~ 24 months -10	SA -5	N.A.	1, 2, 3
1.e.(2)	e. Differential Pressure Between Steam Lines -- High	S -1	~~R~~ 24 months -10	SA -5	N.A.	1, 2, 3
1.e.(1)	f. Steam Line Pressure -- Low	S -1	~~R~~ 24 months -10	SA -5	N.A.	1, 2, 3
	2. CONTAINMENT SPRAY					
2.a	a. Manual Initiation			See Functional Unit 9		
2.b	b. Automatic Actuation Logic	N.A.	N.A.	Q (2)-2	N.A.	1, 2, 3, 4
2.c	c. Containment Pressure -- High-High	S -1	~~R~~ 24 months -10	SA ~~(3)~~ -5	N.A.	1, 2, 3
	3. CONTAINMENT ISOLATION					
	a. Phase "A" Isolation					
3.a.(1)	1) Manual			See Functional Unit 9		
3.a.(3)	2) From Safety Injection Automatic Actuation Logic	N.A.	N.A.	Q (2)-3	N.A.	1, 2, 3, 4
	b. Phase "B" Isolation					
3.b.(1)	1) Manual			See Functional Unit 9		
3.b.(2)	2) Automatic Actuation Logic	N.A.	N.A.	Q (2)-2	N.A.	1, 2, 3, 4
3.b.(3)	3) Containment Pressure-- High-High	S -1	~~R~~ 24 months -10	SA ~~(3)~~ -5	N.A.	1, 2, 3

Add proposed SR 3.3.2.4 and SR 3.3.2.8 (M.6)

Add proposed SR 3.3.2.4 and SR 3.3.2.8 (M.6)

Add proposed SRs 3.3.2.2, 3.3.2.4, and 3.3.2.8 for Function 3.a.(2) (M.8)

Add proposed SR 3.3.2.4 and SR 3.3.2.8 (M.6)

ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

A.10

ITS	FUNCTIONAL UNIT	SR 3.3.2.1 CHANNEL CHECK	SR 3.3.2.7, SR 3.3.2.10 CHANNEL CALIBRATION	SR 3.3.2.2, SR 3.3.2.3, SR 3.3.2.5, SR 3.3.2.6, SR 3.3.2.9 CHANNEL FUNCTIONAL TEST	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
	c. Purge and Exhaust Isolation					
	1) Manual	See Functional Unit 9				
	2) Containment Radioactivity – High	S	R	Q	N.A.	1, 2, 3, 4
	4. STEAM LINE ISOLATION					
4.a	a. Manual		See Functional Unit 9			
4.b	b. Automatic Actuation Logic	N.A.	N.A.	Q (2)-2	N.A.	1, 2, 3
4.c	c. Containment Pressure – High-High	S -1	R -10	SA ~~M~~ -5	N.A.	1, 2, 3
4.e	d. Steam Flow in Two Steam Lines – High Coincident with T_{avg} -- Low-Low	S -1	R -10	SA-5	N.A.	1, 2, 3
4.d	e. Steam Line Pressure – Low	S -1	R -10	SA-5	N.A.	1, 2, 3
	5. TURBINE TRIP AND FEEDWATER ISOLATION					
5.b	a. Steam Generator Water Level – High-High	S -1	R -10	SA-5	N.A.	1, 2, 3
	6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
6.c	a. Steam Generator Water Level – Low-Low	S -1	R -10	SA-5	N.A.	1, 2, 3
6.e	b. 4 kV Bus Loss of Voltage	S -1	R -7	M -6	N.A.	1, 2, 3
6.d	c. Safety Injection	N.A.	N.A.	Q (2) -3	N.A.	1, 2, 3
6.g	d. Loss of Main Feed Pumps	N.A.	N.A.	R -9	N.A.	1, 2

See ITS 3.3.6

L.2 M.6

Add proposed SR 3.3.2.4 and SR 3.3.2.8

Add proposed Footnote (d)

L.6

LA.6

24 months

Add proposed Footnote (d)

L.6

Add proposed Footnote (f)

L.7

Add proposed SRs 3.3.2.2, 3.3.2.4, SR 3.3.2.8 for Function 5.a

M.2

Add proposed SR 3.3.2.9 for Function 5.c

24 months

M.7

Add proposed Note to SR 3.3.2.6

A.11

L.2

184 days

L.19

184 days

24 months

L.13

M.10

Add proposed SRs 3.3.2.2, 3.3.2.4, and 3.3.2.8 for Function 6.a
Add proposed SR 3.3.2.11 for Function 6.b

M.3

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK (SR 3.3.6.1)	CHANNEL CALIBRATION (SR 3.3.6.8)	~~CHANNEL FUNCTIONAL TEST~~ COT (SR 3.3.6.6)	TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
c. Purge and Exhaust Isolation					
Function 1 — 1) Manual	See Functional Unit 9				
Function 3 — 2) Containment Radioactivity -- High	~~S~~ -1	~~8~~- ~~R~~ 24 months	~~6~~- ~~Q~~ 184 days	N.A.	~~1, 2, 3, 4~~
4. STEAM LINE ISOLATION					
a. Manual	See Functional Unit 9				
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
c. Containment Pressure -- High-High	S	R	SA (3)	N.A.	1, 2, 3
d. Steam Flow in Two Steam Lines -- High Coincident with T_{avg} -- Low-Low	S	R	SA	N.A.	1, 2, 3
e. Steam Line Pressure -- Low	S	R	SA	N.A.	1, 2, 3
5. TURBINE TRIP AND FEEDWATER ISOLATION					
a. Steam Generator Water Level -- High-High	S	R	SA	N.A.	1, 2, 3
6. MOTOR DRIVEN AUXILIARY FEEDWATER PUMPS					
a. Steam Generator Water Level -- Low-Low	S	R	SA	N.A.	1, 2, 3
b. 4 kV Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3
c. Safety Injection	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
d. Loss of Main Feed Pumps	N.A.	N.A.	R	N.A.	1, 2

A.4

L.9

M.1

L.5

See ITS 3.3.2

Add proposed SRs 3.3.6.2, 3.3.6.3, and 3.3.6.4 for Function 2

M.2

Add proposed SR 3.3.6.5 for Function 4

M.3

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ITS 3.3.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.2-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

ITS	FUNCTIONAL UNIT	SR 3.3.2.1 CHANNEL CHECK	SR 3.3.2.7, SR 3.3.2.10 CHANNEL CALIBRATION	SR 3.3.2.2, SR 3.3.2.5, SR 3.3.2.6 CHANNEL FUNCTIONAL TEST	SR 3.3.2.9 TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
	7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMP					
6.c	a. Steam Generator Water Level – Low-Low	S -1	~~R~~ -10	SA-5	N.A.	1, 2, 3
6.f	b. Reactor Coolant Pump Bus Undervoltage	N.A.	~~R~~ -7	~~M~~ -6	N.A.	1, 2, ~~3~~
	8. LOSS OF POWER					
	a. 4 kv Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3, 4
	b. 4 kv Bus Degraded Voltage	S	R	M	N.A.	1, 2, 3, 4
	9. MANUAL					
1.a, 5.c, 3.a.(3), 6.d	a. Safety Injection (ECCS) ~~Feedwater Isolation~~ ~~Reactor Trip (SI)~~ Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps ~~Essential Service Water System~~	N.A.	N.A.	N.A.	~~R~~ -9	1, 2, 3, 4
2.a, 3.b.(1)	b. Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -9	1, 2, 3, 4
3.a.(1)	c. Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	~~R~~ -9	1, 2, 3, 4
4.a	d. Steam Line Isolation	N.A.	N.A.	~~Ø~~	~~R~~ -9	1, 2, 3
7.a	e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	~~R~~ -9	1, 2, 3, 4
	10. CONTAINMENT AIR RECIRCULATION FAN					
7.a	a. Manual	See Functional Unit 9				
7.b	b. Automatic Actuation Logic	N.A.	N.A.	Q (2) -2	N.A.	1, 2, 3
7.c	c. Containment Pressure – High	S -1	~~R~~ -10	SA(~~Ø~~) -5	N.A.	1, 2, 3

A.10
L.2
M.10
L.19
A.11
L.18
M.3
24 months
184 days
184 days
Add proposed Note to SR 3.3.2.6
Add proposed SRs 3.3.2.2, 3.3.2.4, and 3.3.2.8 for Function 6.a
See ITS 3.3.5
LA.3
L.13
24 months
See ITS 3.3 6
LA.3
24 months
L.13
24 months
See ITS 3.3.6
24 months
L.13
24 months
Add proposed Footnote (d)
L.6
L.14
Add proposed SR 3.3.2.4 and SR 3.3.2.8
M.6
LA.6
24 months
L.2

ITS 3.3.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.4

FUNCTIONAL UNIT	SR 3.3.5.1 CHANNEL CHECK	SR 3.3.5.3, SR 3.3.5.5 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	SR 3.3.5.2, SR 3.3.5.4 TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMP					
a. Steam Generator Water Level – Low-Low	S	R	SA	N.A.	1, 2, 3
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	N.A.	1, 2, 3
8. LOSS OF POWER	184 days	184 days			
a. 4 kv Bus Loss of Voltage	S	~~R~~ -5	~~M~~	~~N.A.~~ -4	1, 2, 3, 4
b. 4 kv Bus Degraded Voltage	S	31 days ~~R~~ -3	M	~~N.A.~~ -2	1, 2, 3, 4
9. MANUAL					
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation Auxiliary Feedwater Pumps Essential Service Water System	N.A.	N.A.	N.A.	R	1, 2, 3, 4
b. Containment Spray Containment Isolation - Phase "B" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	R	1, 2, 3, 4
c. Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation	N.A.	N.A.	N.A.	R	1, 2, 3, 4
d. Steam Line Isolation	N.A.	N.A.	Q	R	1, 2, 3
e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	R	1, 2, 3, 4
10. CONTAINMENT AIR RECIRCULATION FAN					
a. Manual	See Functional Unit 9				
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3
c. Containment Pressure – High	S	R	SA (3)	N.A.	1, 2, 3

LCO 3.3.5 and APPLICABILITY

See ITS 3.3.2

Add proposed Note to SR 3.3.5.2 and SR 3.3.5.4

A.8

A.4

when associated DG is required to be OPERABLE by LCO 3.8.2

M.1

L.5

M.2

See ITS 3.3.2

See ITS 3.3.6

See ITS 3.3.2

See ITS 3.3.2

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A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 4.3-2 (Continued)

ENGINEERED SAFETY FEATURE ACTUATION SYSTEM INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

FUNCTIONAL UNIT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	SR 3.3.6.7 TRIP ACTUATING DEVICE OPERATIONAL TEST	MODES IN WHICH SURVEILLANCE REQUIRED	
7. TURBINE DRIVEN AUXILIARY FEEDWATER PUMP						
a. Steam Generator Water Level – Low-Low	S	R	SA	N.A.	1, 2, 3	See ITS 3.3.2
b. Reactor Coolant Pump Bus Undervoltage	N.A.	R	M	N.A.	1, 2, 3	
8. LOSS OF POWER						
a. 4 kv Bus Loss of Voltage	S	R	M	N.A.	1, 2, 3, 4	See ITS 3.3.5
b. 4 kv Bus Degraded Voltage	S	R	M	N.A.	1, 2, 3, 4	
9. MANUAL						
a. Safety Injection (ECCS) Feedwater Isolation Reactor Trip (SI) Containment Isolation - Phase "A" Containment Purge and Exhaust Isolation (Function 4) Auxiliary Feedwater Pumps Essential Service Water System	N.A.	N.A.	N.A.	R	1, 2, 3, 4	See ITS 3.3.2
b. ~~Containment Spray~~ ~~Containment Isolation - Phase "B"~~ Containment Purge and Exhaust Isolation (Function 1)	N.A.	N.A.	N.A.	~~R~~ -7 24 months	1, 2, 3, 4	L.6
c. ~~Containment Isolation - Phase "A"~~ Containment Purge and Exhaust Isolation (Function 1)	N.A.	N.A.	N.A.	~~R~~ -7 24 months	1, 2, 3, 4	LA.2
d. Steam Line Isolation	N.A.	N.A.	Q	R	1, 2, 3	See ITS 3.3.2
e. Containment Air Recirculation Fan	N.A.	N.A.	N.A.	R	1, 2, 3, 4	
10. CONTAINMENT AIR RECIRCULATION FAN						
a. Manual	See Functional Unit 9					
b. Automatic Actuation Logic	N.A.	N.A.	Q (2)	N.A.	1, 2, 3	
c. Containment Pressure – High	S	R	SA (3)	N.A.	1, 2, 3	

A.1

ITS 3.3.2

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 4.3-2 (Continued)

TABLE NOTATION

ITS		
	(1)	Deleted
SR 3.3.2.2, SR 3.3.2.3	(2)	Each train or logic channel shall be tested at least every other 92 days. A.10
SR 3.3.2.5 Note	(3)	The CHANNEL FUNCTIONAL TEST shall include exercising the transmitter ~~by applying either a vacuum or pressure to the appropriate side of the transmitter.~~ LA.6

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ITS 3.3.3

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3 — 3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits~~. L.7

APPLICABILITY: As shown in Table 3.3-6.

ACTION: ← Add proposed ACTIONS Note 2 — A.2

~~a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable.~~ L.7

ACTION A, B, C, E and G — b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

ACTIONS Note 1 — c. The provisions of Specifications ~~3.0.3 and~~ 3.0.4 are not applicable. M.6

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3. L.8

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

~~3/4.3.3 MONITORING INSTRUMENTATION~~ A.2

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 — 3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE ~~with their alarm/trip setpoints within the specified limits.~~ LA.3

APPLICABILITY: As shown in Table 3.3-6. A.3

ACTION: Add proposed ACTIONS Note

inoperable, restore the channel L.1

ACTION A — a. ~~With a radiation monitoring channel~~ ~~alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit~~ within 4 hours ~~or declare the channel inoperable.~~

ACTION C — b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6.

~~c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~ A.8

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ operations during the modes and at the frequencies shown in Table 4.3-3.

COT A.4

3/4.3.3 MONITORING INSTRUMENTATION

RADIATION MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.1 The radiation monitoring instrumentation channels shown in Table 3.3-6 shall be OPERABLE with their alarm/trip setpoints within the specified limits.

APPLICABILITY: As shown in Table 3.3-6.

ACTION:

a. With a radiation monitoring channel alarm/trip setpoint exceeding the value shown in Table 3.3-6, adjust the setpoint to within the limit within 4 hours or declare the channel inoperable. LA.1

b. With one or more radiation monitoring channels inoperable, take the ACTION shown in Table 3.3-6. LA.2

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.3.3.1 Each radiation monitoring instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations during the modes and at the frequencies shown in Table 4.3-3.

A.1

ITS

Table 3.3.3-1

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

	OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	~~ALARM SETPOINT~~	TRIP SETPOINT	ACTION	
						L.7
	1. Modes 1, 2, 3 & 4					L.9
	A. Area Monitors					
	i. Upper Containment* (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21	See ITS 3.3.6 and CTS 3/4.3.3.1
10	ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A	L.7, L.14
	B. Process Monitors					
	i. Particulate Channel* (ERS 2301/2401)	1	N/A	≤ 2.52 μCi	20	See ITS 3.3.6 and ITS 3.4.15
	ii. Noble Gas Channel* (ERS 2305/2405)	1	N/A	≤ 4.4×10^{-3} $\frac{\mu Ci}{cc}$	20	
	C. Noble Gas Effluent Monitors					See CTS 3/4.3.3.1
	i. Unit Vent Effluent Monitors					
	a. Low Range (VRS 2505)	------------(see the ODCM)-------------				
	b. Mid Range (VRS 2507)	1	N/A	N/A	22B	
	c. High Range (VRS 2509)	1	N/A	N/A	22B	
	ii. Steam Generator PORV					
	a. MRA 2601 (Loop 1)	1	N/A	N/A	22B	
	b. MRA 2602 (Loop 4)	1	N/A	N/A	22B	
	c. MRA 2701 (Loop 2)	1	N/A	N/A	22B	
	d. MRA 2702 (Loop 3)	1	N/A	N/A	22B	
	iii. Gland Steam Condenser Vent Monitor					
	a. Low Range (SRA 2805)	------------(see the ODCM)-------------				
	iv. Steam Jet Air Ejector Vent Monitors					
	a. Low Range (SRA 2905)	------------(see the ODCM)-------------				
	b. Mid Range (SRA 2907)	1	N/A	N/A	22B	
	c. High Range (SRA 2909)	1	N/A	N/A	22B	

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

See ITS 3.3.3

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

ALLOWABLE VALUE — A.7

	OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP~~ SETPOINT	ACTION
	1. Modes 1, 2, 3 & 4				
	A. Area Monitors				
Function 3.c	i. Upper Containment[#] (VRS ~~2101~~/2201)	1	N/A	≤ 54 mR/hr	21
	ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A
	B. Process Monitors				
Function 3.b	i. Particulate Channel[#] (ERS ~~2301~~/2401)	1	N/A	≤ 2.52 μCi	20
Function 3.a	ii. Noble Gas Channel[#] (ERS ~~2305~~/2405)	1	N/A	≤ 4.4×10^{-3} μCi/cc	20
	C. Noble Gas Effluent Monitors				
	i. Unit Vent Effluent Monitors				
	a. Low Range (VRS 2505)	------------(see the ODCM)------------			
	b. Mid Range (VRS 2507)	1	N/A	N/A	22B
	c. High Range (VRS 2509)	1	N/A	N/A	22B
	ii. Steam Generator PORV				
	a. MRA 2601 (Loop 1)	1	N/A	N/A	22B
	b. MRA 2602 (Loop 4)	1	N/A	N/A	22B
	c. MRA 2701 (Loop 2)	1	N/A	N/A	22B
	d. MRA 2702 (Loop 3)	1	N/A	N/A	22B
	iii. Gland Steam Condenser Vent Monitor				
	a. Low Range (SRA 2805)	------------(see the ODCM)------------			
	iv. Steam Jet Air Ejector Vent Monitors				
	a. Low Range (SRA 2905)	------------(see the ODCM)------------			
	b. Mid Range (SRA 2907)	1	N/A	N/A	22B
	c. High Range (SRA 2909)	1	N/A	N/A	22B

M.1

See CTS 3/4.3.3.1

L.4

See ITS 3.3.3

M.1

See ITS 3.4.15

L.4

See CTS 3/4.3.3.1

COOK NUCLEAR PLANT - UNIT 2 3/4 3-35 AMENDMENT NO. ~~80~~, ~~119~~, 175

CTS 3/4.3.3.1

TABLE 3.3-6

RADIATION MONITORING INSTRUMENTATION

(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION	
1. Modes 1, 2, 3 & 4					LA.1
A. Area Monitors					
i. Upper Containment† (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21	
ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A	See ITS 3.3.3
B. Process Monitors					See ITS 3.3.6 and ITS 3.4.15
i. Particulate Channel† (ERS 2301/2401)	1	N/A	≤ 2.52 µCi	20	
ii. Noble Gas Channel† (ERS 2305/2405)	1	N/A	≤ 4.4×10^{-3} µCi/cc	20	
C. Noble Gas Effluent Monitors					
i. Unit Vent Effluent Monitors					LA.1
a. Low Range (VRS 2505)	------------(see the ODCM)------------				LA.2
b. Mid Range (VRS 2507)	1	N/A	N/A	22B	
c. High Range (VRS 2509)	1	N/A	N/A	22B	LA.2
ii. Steam Generator PORV					
a. MRA 2601 (Loop 1)	1	N/A	N/A	22B	
b. MRA 2602 (Loop 4)	1	N/A	N/A	22B	
c. MRA 2701 (Loop 2)	1	N/A	N/A	22B	
d. MRA 2702 (Loop 3)	1	N/A	N/A	22B	LA.1
iii. Gland Steam Condenser Vent Monitor					LA.2
a. Low Range (SRA 2805)	------------(see the ODCM)------------				
iv. Steam Jet Air Ejector Vent Monitors					LA.1
a. Low Range (SRA 2905)	------------(see the ODCM)------------				LA.2
b. Mid Range (SRA 2907)	1	N/A	N/A	22B	LA.2
c. High Range (SRA 2909)	1	N/A	N/A	22B	LA.1

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ITS 3.4.15

A.1

ITS

TABLE 3.3-6
RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment+ (VRS 2101/2201)	1	N/A	≤ 54 mR/hr	21
ii. Containment High Range (VRA 2310/2410)	2	≤ 10R/hr	N/A	22A
B. Process Monitors				
LCO 3.4.15.b — i. Particulate Channel+ ~~(ERS 2301/2401)~~	1	N/A	≤ 2.52 μCi	20 B, D, E
LCO 3.4.15.c — ii. Noble Gas Channel+ ~~(ERS 2305/2405)~~	1	N/A	≤ 4.4x10^{-3} μCi/cc	20 B, D, E
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	------------(see the ODCM)------------			
b. Mid Range (VRS 2507)	1	N/A	N/A	22B
c. High Range (VRS 2509)	1	N/A	N/A	22B
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	1	N/A	N/A	22B
b. MRA 2602 (Loop 4)	1	N/A	N/A	22B
c. MRA 2701 (Loop 2)	1	N/A	N/A	22B
d. MRA 2702 (Loop 3)	1	N/A	N/A	22B
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	------------(see the ODCM)------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	------------(see the ODCM)------------			
b. Mid Range (SRA 2907)	1	N/A	N/A	22B
c. High Range (SRA 2909)	1	N/A	N/A	22B

See ITS 3.3.3

See ITS 3.3.6 and CTS 3/4.3.3.1

See ITS 3.3.6 and CTS 3/4.3.3.1

See ITS 3.3.3

See ITS 3.3.6

L.1

See CTS 3/4.3.3.1

COOK NUCLEAR PLANT - UNIT 2 3/4 3-35 AMENDMENT NO. ~~80~~, ~~119~~, 175

A.1

ITS 3.3.6

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.6-1

TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

L.7

ALLOWABLE VALUE — A.7

ITS	OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	~~TRIP~~ SETPOINT	ACTION
Footnote (a)	2. ~~Mode 6~~ — During movement of irradiated fuel assemblies within containment		See CTS 3/4.3.3.1		
	A. Train A	any 2/3 channels			22 C
Function 3.c	i. Containment Area[#] Radiation Channel ~~(VRS 2101)~~	Footnote (b)	N/A	≤ 54 mR/hr	
Function 3.b	ii. Particulate Channel[#] ~~(ERS 2301)~~		N/A	≤ 2.52 μCi	
Function 3.a	iii. Noble Gas Channel[#] ~~(ERS 2305)~~		N/A	≤ 4.4×10^{-3} $\frac{\mu Ci}{cc}$	
	B. Train B	any 2/3 channels			22 C
Function 3.c	i. Containment Area[#] Radiation Channel ~~(VRS 2201)~~	Footnote (b)	N/A	≤ 54 mR/hr	
Function 3.b	ii. Particulate Channel[#] ~~(ERS 2401)~~		N/A	≤ 2.52 μCi	
Function 3.a	iii. Noble Gas Channel[#] ~~(ERS 2405)~~		N/A	≤ 4.4×10^{-3} $\frac{\mu Ci}{cc}$	
	3. Mode ***				
	A. Spent Fuel Storage (RRC 330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

L.7

L.4

See CTS 3/4.3.3.1

See CTS 3/4.3.3.1

*** With fuel in storage pool or building

[#] ~~This specification only applies during PURGE~~

L.7

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

TABLE 3.3-6 (Continued)

RADIATION MONITORING INSTRUMENTATION
(OPERABILITY BASES DISCUSSED IN BASES SECTION 3/4 3.3.1)

OPERATION MODE/INSTRUMENT	MINIMUM CHANNELS OPERABLE	ALARM SETPOINT	TRIP SETPOINT	ACTION
2. Mode 6				
A. Train A	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS 2101)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS 2301)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS 2305)		N/A	≤ $4.4x10^{-3}$ μCi/cc	
B. Train B	any 2/3 channels			22
i. Containment Area+ Radiation Channel (VRS 2201)		N/A	≤ 54 mR/hr	
ii. Particulate Channel+ (ERS 2401)		N/A	≤ 2.52 μCi	
iii. Noble Gas Channel+ (ERS 2405)		N/A	≤ $4.4x10^{-3}$ μCi/cc	
3. Mode ***				
A. Spent Fuel Storage (RRC 330)	1	≤ 15 mR/hr	≤ 15 mR/hr	21

LA.1

See ITS 3.3.6

LA.1

*** With fuel in storage pool or building
+ This specification only applies during PURGE

LA.1

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ITS 3.3.3

A.1

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

ACTIONS A and C

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

L.11

ACTIONS B, E, and G

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

See ITS 5.6

ACTIONS Note 1

3. Technical Specification Sections ~~3.0.3 and~~ 3.0.4 Not Applicable.

M.6

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See CTS 3/4.3.3.1

A.1

ITS 3.3.6

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

two or more

L.1

ACTION C ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. ~~This ACTION is not required during the performance of containment integrated leak rate test.~~

M.4

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

See ITS 3.3.3

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

See CTS 3/4.3.3.1

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

CTS 3/4.3.3.1

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

LA.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

See ITS 5.6

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

LA.1

ITS 3.4.15

A.1

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTIONS B, D, E

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1.

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day.

See CTS 3/4.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test.

See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements:

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

See ITS 3.3.3

See ITS 5.6

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements.

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

See CTS 3/4.3.3.1

A.1

ITS

TABLE 3.3-6 (Continued)

TABLE NOTATION

ACTION 20 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.4.6.1. — See ITS 3.4.15

ACTION 21 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, perform area surveys of the monitored area with portable monitoring instrumentation at least once per day. — See CTS 3/4.3.3.1

ACTION 22 - With the number of channels OPERABLE less than required by the Minimum Channels Operable requirement, comply with the ACTION requirements of Specification 3.9.9. This ACTION is not required during the performance of containment integrated leak rate test. — See ITS 3.3.6

ACTION 22A- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements: — See ITS 3.3.3

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

5.6.6 2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable. — See ITS 3.3.3

ACTION 22B- With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirements. — See CTS 3/4.3.3.1

1. either restore the inoperable Channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 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.

3. In the event of an accident involving radiological releases initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours.

4. Technical Specification Sections 3.0.3 and 3.0.4 Not Applicable.

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ITS 3.3.3

A.1

ITS

Table 3.3.3-1

TABLE 4.3-3
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	SR 3.3.3.1 CHANNEL CHECK	SR 3.3.3.3 CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 ~~& 4~~ (L.9)				
(See CTS 3/4.3.3.1) A. Area Monitors				
i. Upper Containment (VRS 2101/2201)	S^*	R	Q	1, 2, 3, 4
10 ii. Containment High Range ~~(VRA 2310/2410)~~ (L.8, L.9, L.6, L.12, L.14)	~~S~~ 31 days	~~R~~ 24 months	~~Q~~	1, 2, 3, ~~4~~
B. Process Monitors				
i. Particulate Channel (ERS 2301/2401)	S^*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors (See ITS 3.4.15) (See CTS 3/4.3.3.1)				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	--------------(see the ODCM)--------------			
b. Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 2509)	S^*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	S^*	R	Q	1, 2, 3, 4
b. MRA 2602 (Loop 4)	S^*	R	Q	1, 2, 3, 4
c. MRA 2701 (Loop 2)	S^*	R	Q	1, 2, 3, 4
d. MRA 2702 (Loop 3)	S^*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	--------------(see the ODCM)--------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	--------------(see the ODCM)--------------			
b. Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 2909)	S^*	R	N/A	1, 2, 3, 4

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TABLE 4.3-3

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment (VRS 2101/2201)	S*	R	Q	1, 2, 3, 4
ii. Containment High Range (VRA 2310/2410)	S	R	Q	1, 2, 3, 4
B. Process Monitors				
i. Particulate Channel (ERS 2301/2401)	S*	R	Q	1, 2, 3, 4
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	---------------(see the ODCM)---------------			
b. Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 2602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 2701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 2702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	---------------(see the ODCM)---------------			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	---------------(see the ODCM)---------------			
b. Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4

LA.1

See ITS 3.3.3

See ITS 3.4.15

LA.1

LA.2

LA.2

LA.1

LA.2

LA.1

LA.2

LA.2

LA.1

ITS 3.4.15

A.1

ITS

TABLE 4.3-3
RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

COT — A.3

OPERATION MODE/INSTRUMENT	SR 3.4.15.1 CHANNEL CHECK	SR 3.4.15.4 CHANNEL CALIBRATION	SR 3.4.15.2 ~~CHANNEL FUNCTIONAL TEST~~	APPLICABLE MODES
1. Modes 1, 2, 3 & 4				
A. Area Monitors				
i. Upper Containment (VRS 2101/2201)	S*	R	Q	1, 2, 3, 4
ii. Containment High Range (VRA 2310/2410)	S	R	Q	1, 2, 3, 4
B. Process Monitors				
i. Particulate Channel (~~ERS~~ 2301/~~2401~~)	S*	~~R~~ 24 months	~~Q~~ 184 days	1, 2, 3, 4
C. Noble Gas Effluent Monitors				
i. Unit Vent Effluent Monitors				
a. Low Range (VRS 2505)	(see the ODCM)			
b. Mid Range (VRS 2507)	S	R	N/A	1, 2, 3, 4
c. High Range (VRS 2509)	S*	R	N/A	1, 2, 3, 4
ii. Steam Generator PORV				
a. MRA 2601 (Loop 1)	S*	R	Q	1, 2, 3, 4
b. MRA 2602 (Loop 4)	S*	R	Q	1, 2, 3, 4
c. MRA 2701 (Loop 2)	S*	R	Q	1, 2, 3, 4
d. MRA 2702 (Loop 3)	S*	R	Q	1, 2, 3, 4
iii. Gland Steam Condenser Vent Monitor				
a. Low Range (SRA 2805)	(see the ODCM)			
iv. Steam Jet Air Ejector Vent Monitors				
a. Low Range (SRA 2905)	(see the ODCM)			
b. Mid Range (SRA 2907)	S	R	Q	1, 2, 3, 4
c. High Range (SRA 2909)	S*	R	N/A	1, 2, 3, 4

LCO 3.4.15.b

See CTS 3/4.3.3.1

See ITS 3.3.3

L.6

L.8

L.1

See CTS 3/4.3.3.1

A.1

ITS 3.3.6

ITS

Table 3.3.6-1

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

A.4 COT

L.11

L.5 184 days

24 months

L.9

L.7 During movement of irradiated fuel assemblies within containment

ITS	OPERATION MODE/INSTRUMENT	SR 3.3.6.1 CHANNEL CHECK	SR 3.3.6.8 CHANNEL CALIBRATION	SR 3.3.6.6 CHANNEL FUNCTIONAL TEST	APPLICABLE MODES
	2. Mode 6				
	A. Train A				6 Footnote (a)
Function 3.c	i. Containment Area Radiation Channel (VRS-2101)	1- S*	8- R	6- Q	
Function 3.b	ii. Particulate Channel (ERS-2301)	1- S*	8- R	6- Q	
Function 3.a	iii. Noble Gas Channel (ERS-2305)	1- S*	8- R	6- Q	
	B. Train B				6 Footnote (a)
Function 3.c	i. Containment Area Radiation Channel (VRS-2201)	1- S*	8- R	6- Q	
Function 3.b	ii. Particulate Channel (ERS-2401)	1- S*	8- R	6- Q	
Function 3.a	iii. Noble Gas Channel (ERS-2405)	1- S*	8- R	6- Q	
	3. Mode **				
	A. Spent Fuel Storage (RRC-330)	S	R	Q	**

L.4

See CTS 3/4.3.3.1

L.11

* To Include SOURCE CHECK per T/S Section 1.27

** With fuel in storage pool or building

See CTS 3/4.3.3.1

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

OPERATION MODE/INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST	APPLICABLE MODES	
					LA.1
2. Mode 6					
A. Train A				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 2101)	S*	R	Q		
ii. Particulate Channel (ERS 2301)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 2305)	S*	R	Q		
B. Train B				6	See ITS 3.3.6
i. Containment Area Radiation Channel (VRS 2201)	S*	R	Q		
ii. Particulate Channel (ERS 2401)	S*	R	Q		See ITS 3.3.6 and ITS 3.4.15
iii. Noble Gas Channel (ERS 2405)	S*	R	Q		
3. Mode **					LA.1
A. Spent Fuel Storage (RRC-330)	S	R	Q	**	

* To include SOURCE CHECK per T/S Section 1.27 — See ITS 3.3.6 and ITS 3.4.15

** With fuel in storage pool or building — LA.1

ITS 3.4.15

A.1

ITS

TABLE 4.3-3 (Continued)

RADIATION MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	OPERATION MODE/INSTRUMENT	CHANNEL CHECK (SR 3.4.15.1)	CHANNEL CALIBRATION (SR 3.4.15.4)	CHANNEL FUNCTIONAL TEST (SR 3.4.15.2) COT	APPLICABLE MODES	
	2. Mode 6					A.3
	A. Train A				6	See ITS 3.3.6
	i. Containment Area Radiation Channel (VRS 2101)	S*	R	Q		
LCO 3.4.15.b	ii. Particulate Channel (ERS 2301)	S*	~~R~~ 24 months	~~Q~~ 184 days		L.8 L.6
LCO 3.4.15.c	iii. Noble Gas Channel (ERS 2305)	S*	~~R~~ 24 months	~~Q~~ 184 days		L.1
	B. Train B				6	See ITS 3.3.6
	i. Containment Area Radiation Channel (VRS 2201)	S*	R	Q		
LCO 3.4.15.b	ii. Particulate Channel (ERS 2401)	S*	~~R~~ 24 months	~~Q~~ 184 days		L.8 L.6
LCO 3.4.15.c	iii. Noble Gas Channel (ERS 2405)	S*	~~R~~ 24 months	~~Q~~ 184 days		L.1
	3. Mode **					
	A. Spent Fuel Storage (RRC-330)	S	R	Q	**	See CTS 3/4.3.3.1

~~* To include SOURCE CHECK per T/S Section 1.27~~ L.7

** With fuel in storage pool or building — See CTS 3/4.3.3.1

INSTRUMENTATION

MOVABLE INCORE DETECTORS

LIMITING CONDITION FOR OPERATION

3.3.3.2 The movable incore detection system shall be OPERABLE with:

a. At least 75% of the detector thimbles,

b. A minimum of 2 detector thimbles per core quadrant, and

c. Sufficient movable detectors, drive, and readout equipment to map these thimbles.

APPLICABILITY: When the movable incore detection system is used for:

a. Recalibration of the excore neutron flux detection system,

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z)$.

ACTION:

With the movable incore detection system inoperable, do not use the system for the above applicable monitoring or calibration functions. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.2 The movable incore detection system shall be demonstrated OPERABLE by normalizing each detector output when required for:

a. Recalibration of the excore neutron flux detection system, or

b. Monitoring the QUADRANT POWER TILT RATIO, or

c. Measurement of $F^N_{\Delta H}$ and $F_Q(Z)$.

INSTRUMENTATION

SEISMIC INSTRUMENTATION*

LIMITING CONDITION FOR OPERATION

3.3.3.3 The seismic monitoring instrumentation shown in Table 3.3-7 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE seismic monitoring instruments less than required by Table 3.3-7, restore the inoperable instrument(s) to OPERABLE status within 30 days.

b. With one or more seismic monitoring instruments inoperable for more than 30 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the instrument(s) to OPERABLE status.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.3.1 Each of the above seismic monitoring instruments shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL CALIBRATION and CHANNEL FUNCTIONAL TEST operations at the frequencies shown in Table 4.3-4.

4.3.3.3.2 Each of the above seismic monitoring instruments actuated during a seismic event shall be restored to OPERABLE status and a CHANNEL CALIBRATION performed within 24 hours following the seismic event. Data shall be retrieved from actuated instruments and analyzed to determine the magnitude of the vibratory ground motion. A Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 10 days describing the magnitude, frequency spectrum and resultant effect upon facility features important to safety.

*Shared System with D. C. Cook Unit 1.

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CTS 3/4.3.3.3

TABLE 3.3-7

SEISMIC MONITORING INSTRUMENTATION

INSTRUMENTS AND SENSOR LOCATIONS	MEASUREMENT RANGE	MINIMUM INSTRUMENTS OPERABLE
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS		
a. Reactor Pit Floor	0-1 g	1
b. Top of Crane Wall	0-1 g	1
c. Free Field	0-1 g	1
2. PEAK RECORDING ACCELEROGRAPHS		
a. Containment Spring Line	0-2 g	1
b. Diesel Generator Room Floor	0-2 g	1
c. Spent Fuel Pool	0-2 g	1

R.1

CTS 3/4.3.3.3

TABLE 4.3-4

SEISMIC MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT CHANNEL	CHANNEL CHECK	CHANNEL CALIBRATION	CHANNEL FUNCTIONAL TEST
1. STRONG MOTION TRIAXIAL ACCELEROGRAPHS			
a. Reactor Pit Floor			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
b. Top of Crane Wall			
1. Time History Recorder	M	R	M
c. Free Field			
1. Time History Recorder	M	R	M
2. Seismic Trigger	NA	R	NA
2. PEAK RECORDING ACCELEROGRAPHS			
a. Containment Spring Line	NA	R	NA
b. Diesel Generator Room Floor	NA	R	NA
c. Spent Fuel Pool	NA	R	NA

R.1

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INSTRUMENTATION

METEOROLOGICAL INSTRUMENTATION*

LIMITING CONDITION FOR OPERATION

3.3.3.4 The meteorological monitoring instrumentation channels shown in Table 3.3-8 shall be OPERABLE.

APPLICABILITY: At all times.

ACTION:

a. With the number of OPERABLE meteorological monitoring channels less than required by Table 3.3-8, suspend all release of gaseous radioactive material from the radwaste gas decay tanks until the inoperable channel(s) is restored to OPERABLE status.

b. With one or more required meteorological monitoring channels inoperable for more than 7 days, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 10 days outlining the cause of the malfunction and the plans for restoring the channel(s) to OPERABLE status.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.4 Each of the above meteorological monitoring instrumentation channels shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-5.

*Shared system with D. C. COOK - UNIT 1.

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TABLE 3.3-8

METEOROLOGICAL MONITORING INSTRUMENTATION

INSTRUMENT	LOCATION	INSTRUMENT MINIMUM ACCURACY	MINIMUM OPERABLE
1. WIND SPEED			Any 1/3 channels
a.	Primary or Backup Meteorological Tower, Nominal Elev. 10 m	(1),(2)	
b.	Primary Meteorological Tower, Nominal Elev. 60 m	(1),(2)	
2. WIND DIRECTION			Any 1/3 channels
a.	Primary or Backup Meteorological Tower, Nominal Elev. 10 m	± 5°	
b.	Primary Meteorological Tower, Nominal Elev. 60 m	± 5°	
3. AIR TEMPERATURE: (for 60 m to 10 m delta T)			NA(3)
a.	Primary Meteorological Tower, Nominal Elev. 10 m	± 0.15°C	
b.	Primary Meteorological Tower, Nominal Elev. 60 m	± 0.15°C	

R.1

(1) Starting speed of anemometer shall be ≤ 1 mph.
(2) ± 1% or 0.5 mph, whichever is greater.
(3) With delta T information unavailable, sigma theta (standard deviation of the horizontal wind direction as determined from emergency procedures) is to be used for the determination of stability class.

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CTS 3/4.3.3.4

TABLE 4.3-5

METEOROLOGICAL MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. WIND SPEED		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
2. WIND DIRECTION		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA
3. AIR TEMPERATURE - DELTA T		
a. Nominal Elev. 10 m	D	SA
b. Nominal Elev. 60 m	D	SA

R.1

D. C. COOK - UNIT 2 3/4 3-41 Amendment No. 45,113

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ITS 3.3.4

A.1

ITS

INSTRUMENTATION

REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.4 — 3.3.3.5 The remote shutdown monitoring instrumentation channels ~~shown in Table 3.3-9~~ shall be OPERABLE ~~with readouts displayed external to the control room~~. LA.1 LA.2

APPLICABILITY: MODES 1, 2 and 3.

ACTION: Add proposed ACTIONS Note 2 A.2

ACTIONS A and B — a. With the number of OPERABLE remote shutdown monitoring channels less than required by Table 3.3-9, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours. Add proposed Required Action B.1 M.1

ACTIONS Note 1 — b. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR 3.3.4.1, SR 3.3.4.2 — 4.3.3.5 Each remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6.

ITS

A.1

TABLE 3.3-9

REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Reactor Trip Breaker Indication	Hot Shutdown Panel in Unit No. 1 Control Room	OPEN-CLOSE	1/trip breaker
2. Pressurizer Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	1700-2500 psig	1
3. Pressurizer Level	Hot Shutdown Panel in Unit No. 1 Control Room	0-100% of instrument span	1
4. Steam Generator Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	0-1200 psig	1/steam generator
5. Steam Generator Level	Hot Shutdown Panel in Unit No. 1 Control Room	0-100% wide range instrument span	1/steam generator

LA.1

D. C. COOK - UNIT 1

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ITS

A.1

TABLE 4.3-6

~~REMOTE SHUTDOWN MONITORING INSTRUMENTATION~~
SURVEILLANCE REQUIREMENTS

LA1

INSTRUMENT	LOCATION	CHANNEL CHECK (SR 3.3.4.1)	CHANNEL CALIBRATION (SR 3.3.4.2)
1. Reactor Trip Breaker Indication	Hot Shutdown Panel in Unit No. 1 Control Room	N.A.	~~N.A.~~ 24 months (M.2)
2. Pressurizer Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	M	~~R~~ 24 months (L.1)
3. Pressurizer Level	Hot Shutdown Panel in Unit No. 1 Control Room	M	~~R~~ 24 months (L.1)
4. Steam Generator Level	Hot Shutdown Panel in Unit No. 1 Control Room	M	~~R~~ 24 months (L.1)
5. Steam Generator Pressure	Hot Shutdown Panel in Unit No. 1 Control Room	M	~~R~~ 24 months (L.1)

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INSTRUMENTATION

APPENDIX R REMOTE SHUTDOWN INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.5.1

The Appendix R remote shutdown instrumentation channels shown in Table 3.3-9A shall be OPERABLE with an opposite unit power supply available and with read out capability at the LSI panels.

APPLICABILITY MODES 1, 2, and 3

ACTION

a. With the number of OPERABLE Appendix R remote shutdown monitoring channels less than required by Table 3.3-9A, either restore the inoperable channel to OPERABLE status within 30 days, or be in HOT SHUTDOWN within the next 12 hours.

b. With the opposite unit power supply not available, restore the power supply to available status within 7 days, or provide fire watches in the affected areas and restore the inoperable channel to OPERABLE status within the next 60 days, or be in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours.

c. The provisions of Specification 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.5.1 Each Appendix R remote shutdown monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-6A.

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CTS 3/4.3.3.5.1

TABLE 3.3-9A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1. Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
2. Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	0-100% wide range instrument span	one on each LSI cabinet for each steam generator
3. Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	0-1500 psig	one on each LSI cabinet for each steam generator
4. Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	0-1500 psig	one on each LSI cabinet for each steam generator
5. Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
6. Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	0-700°F	one on each LSI cabinet
7. Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet
8. Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	0-700°F	one on each LSI cabinet

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R.1

TABLE 3.3-9A (cont.)

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION

INSTRUMENT	READOUT LOCATION	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
9. Pressurizer Level	LSI Cabinet 3	0-100% of instrument span	1
10. Reactor Coolant System Pressure	LSI Cabinet 3	0-3000 psig	1
11. Charging Cross-Flow Between Units	Corridor Elev. 587'	0-150 gpm	1
12. Source Range Neutron Detector (N-23)	LSI Cabinet 4	1-1 X 10^6 cps	1

R.1

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TABLE 4.3-6A

APPENDIX R REMOTE SHUTDOWN MONITORING INSTRUMENTATION
SURVEILLANCE REQUIREMENTS

	INSTRUMENT	LOCATION	CHANNEL CHECK	CHANNEL CALIBRATION
1.	Steam Generators 1 and 4 Level	LSI Cabinet 1 and LSI Cabinet 4	M	R
2.	Steam Generators 2 and 3 Level	LSI Cabinet 2 and LSI Cabinet 4	M	R
3.	Steam Generators 1 and 4 Pressure	LSI Cabinet 4 and LSI Cabinet 5	M	R
4.	Steam Generators 2 and 3 Pressure	LSI Cabinet 4 and LSI Cabinet 6	M	R
5.	Reactor Coolant Loop 4 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 5	M	R
6.	Reactor Coolant Loop 4 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 5	M	R
7.	Reactor Coolant Loop 2 Temperature (Cold)	LSI Cabinet 4 and LSI Cabinet 6	M	R
8.	Reactor Coolant Loop 2 Temperature (Hot)	LSI Cabinet 4 and LSI Cabinet 6	M	R
9.	Pressurizer Level	LSI Cabinet 3	M	R
10.	Reactor Coolant System Pressure	LSI Cabinet 3	M	R
11.	Charging Cross-Flow Between Units	Corridor Elev 587'	N/A	R*
12.	Source Range Neutron Detector (N-23)	LSI Cabinet 4	N/A	R

* Charging Cross-Flow between Units is an instrument common to both Unit 1 and 2. This surveillance will only be conducted on an interval consistent with Unit 1 refueling.

R.1

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

POST-ACCIDENT INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

LCO 3.3.3 — 3.3.6 The post-accident monitoring instrumentation channels shown in Table 3.3-10 shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3. — Add proposed ACTIONS Note 2 — A.2

ACTION: — M.1

ACTIONS A and C — a. With the number of OPERABLE post-accident monitoring channels less than required by Table 3.3-10 (except item 8), either restore the inoperable channel to OPERABLE status within 30 days, — L.1

ACTIONS B, E, F, and G — or be in HOT SHUTDOWN within the next 12 hours. — L.2

Add proposed Required Actions F.1 — M.2

ACTION A — b. With the number of OPERABLE post-accident monitoring channels one less than required by Table 3.3-10, item 8, Refueling Water Storage Tank Water Level:

30 days — L.3

1. Either restore the inoperable channel to OPERABLE status within ~~72 hours~~ or be in at

ACTION B — least HOT SHUTDOWN within the next 12 hours, and — Add proposed Required Action B.1 — L.1

2. Within one hour, bypass the Residual Heat Removal Pump trip function from the Refueling Water Storage Tank Water Level for the pump associated with the out-of-service instrument. — L.4

Add proposed ACTIONS C and F — L.5

ACTIONS Note 1 — c. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

SR Table Note — 4.3.3.6 Each post-accident monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3-10.

ITS

Table 3.3.3-1

TABLE 3.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION

ITS	INSTRUMENT	MINIMUM CHANNELS OPERABLE	
8	1. Containment Pressure	2	
3	2. Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	2	
4	3. Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	2	
5	4. Reactor Coolant Pressure - Wide Range	2	
12	5. Pressurizer Water Level	2	
2	6. Steam Line Pressure	2/Steam Generator	M.3
22	7. Steam Generator Water Level - Narrow Range	~~1~~ 2/Steam Generator	M.3
24	8. Refueling Water Storage Tank Water Level	2	
	~~9. Boric Acid Tank Solution Level~~	~~1~~	R.1
19	10. Auxiliary Feedwater Flow Rate	1/Steam Generator*	
25	11. Reactor Coolant System subcooling Margin Monitor	1~~**~~	LA.1
	~~12. PORV Position Indicator - Limit Switches***~~	~~1/Valve~~	R.1
	~~13. PORV Block Valve Position Indicator - Limit Switches~~	~~1/Valve~~	R.1
	~~14. Safety Valve Position Indicator - Acoustic Monitor~~	~~2 Out of 3 Total~~	R.1
15, 16, 17, 18	15. Incore Thermocouples (Core Exit Thermocouples)	2/Core Quadrant	
6	16. Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	~~One Train~~ 2 ~~(3 Channels/Train)~~	M.3, LA.1
	~~17. Containment Sump Level~~	~~1~~	R.1
7	18. Containment Water Level	2	

A.1

Footnote (d) * Steam Generator Water Level Channels can be used as a substitute for the corresponding auxiliary feedwater flow rate channel instrument.

~~** PPC subcooling margin readout can be used as a substitute for the subcooling monitor instrument.~~ LA.1

~~*** Acoustic monitoring of PORV position (1 channel per three valves - headered discharge) can be used as a substitute for the PORV Indicator - Limit Switches instruments.~~ R.1

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

ITS 3.3.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.3 INSTRUMENTATION

Table 3.3.3-1

TABLE 4.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

ITS			SR 3.3.3.1 CHANNEL CHECK	SR 3.3.3.3 CHANNEL CALIBRATION	
8	1.	Containment Pressure	M	R	
3	2.	Reactor Coolant Outlet Temperature - T_{HOT} (Wide Range)	M	R	
4	3.	Reactor Coolant Inlet Temperature - T_{COLD} (Wide Range)	M	R	
5	4.	Reactor Coolant Pressure - Wide Range	M	R	
12	5.	Pressurizer Water Level	M	R	24 months L.6
2	6.	Steam Line Pressure	M	R	
22	7.	Steam Generator Water Level - Narrow Range	M	R	
24	8.	RWST Water Level	M	R	
	~~9.~~	~~Boric Acid Tank Solution Level~~	~~M~~	~~R~~	R.1
19	10.	Auxiliary Feedwater Flow Rate	M	R	24 months L.6
25	11.	Reactor Coolant System Subcooling Margin Monitor	M	R	
	~~12.~~	~~PORV Position Indicator - Limit Switches~~	~~M~~	~~R~~	R.1
	~~13.~~	~~PORV Block Valve Position Indicator - Limit Switches~~	~~M~~	~~R~~	
	~~14.~~	~~Safety Valve Position Indicator - Acoustic Monitor~~	~~M~~	~~R~~	24 months L.6
15, 16, 17, 18	15.	Incore Thermocouples (Core Exit Thermocouples)	M	R ~~(1)~~	M.5
6	16.	Reactor Coolant Inventory Tracking System (Reactor Vessel Level Indication)	M ~~(2)~~	R ~~(3)~~	LA.2
	~~17.~~	~~Containment Sump Level~~	~~M~~	~~R~~	R.1
7	18.	Containment Water Level	M	R	24 months L.6

Add proposed Functions 1, 9, 13, 14, 20, 21, 23, 26, 27, and 28 M.4

~~(1) Partial range channel calibration for sensor to be performed below P-12 in MODE 3.~~ M.5

~~(2) With one train of Reactor Vessel Level Indication inoperable, Subcooling Margin Indication and Core Exit Thermocouples may be used to perform a CHANNEL CHECK to verify the remaining Reactor Vessel Indication train OPERABLE.~~ LA.2

~~(3) Completion of channel calibration for sensors to be performed below P-12 in MODE 3.~~ M.5

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TABLE 3.3-11

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CTS 3/4.3.3.9

INSTRUMENTATION

EXPLOSIVE GAS MONITORING INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.3.9 The explosive gas monitoring instrumentation channels shown in Table 3.3-12 shall be OPERABLE with their alarm/trip setpoints set to ensure that the limits of Specifications 3.11.2.1 are not exceeded.

APPLICABILITY: As shown in Table 3.3-12.

ACTION:

a. With an explosive gas monitoring instrumentation channel alarm/trip setpoint less conservative than the above specification, declare the channel inoperable and take the ACTION shown in Table 3.3-12.

b. With less than the minimum number of explosive gas monitoring instrumentation channels OPERABLE, take the ACTION shown in Table 3.3-12. Restore the inoperable instrumentation to OPERABLE status within 30 days. If unsuccessful, prepare and submit a SPECIAL REPORT to the Commission pursuant to Specification 6.9.2 to explain why this inoperability was not corrected in a timely manner.

c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

R.1

SURVEILLANCE REQUIREMENTS

4.3.3.9.1 Each explosive gas monitoring instrumentation channel shall be demonstrated OPERABLE by performance of the CHANNEL CHECK, CHANNEL CALIBRATION, and analog CHANNEL FUNCTIONAL TEST at the frequencies shown in Table 4.3-8.

COOK NUCLEAR PLANT - UNIT 2 3/4 3-53 AMENDMENT NO. ~~51~~, ~~138~~, 175

CTS 3/4.3.3.9

TABLE 3.3-12

Explosive Gas Monitoring Instrumentation

Instrument (Instrument #)	Minimum Channels OPERABLE	Applicability	ACTION
1. Waste Gas Holdup System Explosive Gas Monitoring System[1]			
a. Hydrogen Monitor (QC-1400)	1	**	23
b. Oxygen Monitor (QC-1400, QC-370)	2	**	24

ACTION STATEMENTS

Action 23 With the number of channels OPERABLE less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 14 days, provided grab samples are taken and analyzed every 12 hours.

Action 24 With the number of channels OPERABLE one less than required by the Minimum Channels OPERABLE requirement, operation of this system may continue for up to 30 days. With 2 channels inoperable, operation of this system may continue for up to 30 days, provided grab samples are taken and analyzed every 12 hours.

** During waste gas holdup system operation.

---

[1] The waste gas holdup system explosive gas monitoring system may be inoperable for up to 160 days on a one-time basis for the purpose of replacing one oxygen monitor. During this time, grab samples for oxygen are to be taken and analyzed every 12 hours.

COOK NUCLEAR PLANT - UNIT 2 3/4 3-54 AMENDMENT NO. ~~80~~, ~~114~~, ~~163~~, 175

R.1

TABLE 4.3-8

Explosive Gas Monitoring Instrumentation Surveillance Requirements

Instrument (Instrument #)	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	Applicability
1. Waste Gas Holdup System Explosive Gas Monitoring System				
a. Hydrogen Monitor (QC-1400)	D	M	Q(1)	**
b. Oxygen Monitor (QC-1400, QC-370*)	D	M	Q(2)	**

Table Notation

(1) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent hydrogen, balance nitrogen, and

b. Four volume percent hydrogen, balance nitrogen.

(2) The CHANNEL CALIBRATION shall include the use of standard gas samples containing a nominal:

a. One volume percent oxygen, balance nitrogen, and

b. Four volume percent oxygen, balance nitrogen.

** During waste gas holdup system operation.

* These surveillances are not required during the 160-day period in which this monitor is being replaced.

R.1

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A.1

ITS

3/4.4 REACTOR COOLANT SYSTEM

3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION

STARTUP AND POWER OPERATION

LIMITING CONDITION FOR OPERATION

OPERABLE and — A.2

LCO 3.4.4 — 3.4.1.1 All reactor coolant loops shall be in operation.

APPLICABILITY: MODES 1 and 2.* — A.3

ACTION:

ACTION A — With less than the above required reactor coolant loops in operation, be in at least HOT STANDBY within ~~1~~ hour.

6 — L.1

SURVEILLANCE REQUIREMENT

SR 3.4.4.1 — 4.4.1.1 The above required reactor coolant loops shall be verified to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. — LA.1

~~*See Special Test Exception 3.10.4~~ — A.3

ITS 3.4.5

A.1

ITS

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION

LCO 3.4.5

3.4.1.2 a. The reactor coolant loops listed below shall be OPERABLE and in operation as required by items b, c, and d:

~~1. Reactor Coolant Loop 1 and its associated steam generator and reactor coolant pump,~~

~~2. Reactor Coolant Loop 2 and its associated steam generator and reactor coolant pump,~~

~~3. Reactor Coolant Loop 3 and its associated steam generator and reactor coolant pump,~~

~~4. Reactor Coolant Loop 4 and its associated steam generator and reactor coolant pump.~~

LA.1

b. At least two of the above coolant loops shall be OPERABLE and at least one loop in operation if the reactor trip breakers are in the open position, or the control rod drive system is not capable of rod withdrawal.*

LA.2

c. At least ~~three~~ two of the above coolant loops shall be OPERABLE and in operation when the reactor trip system breakers are in the closed position and the control rod drive system is capable of rod withdrawal.

L.1

LA.2

~~d. At least three of the above coolant loops shall be OPERABLE and in operation above P-12. (Refer to Technical Specification 3.3.2.1, Table 3.3-3 for instrumentation requirements.)~~

L.2

APPLICABILITY: MODE 3

A.2

M.1

removed from operation

per 8 hour period

LCO 3.4.5 Note

* All reactor coolant pumps may be de-energized for up to 1 hour provided (1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration**, and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

L.3

Add proposed LCO Note part c

A.2

~~** For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.8.b.2.~~

L.3

ITS 3.4.5

A.1

ITS

REACTOR COOLANT SYSTEM

HOT STANDBY

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

ACTION A — a. With one less than the above required reactor coolant loops OPERABLE, restore the required loops to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours. M.2

ACTION B

ACTION C — b. With one less than the number of operating coolant loops required by item c above, restore the required number of coolant loops within 2 hours or open the reactor trip breakers. ← Add proposed Required Actions C.1 and D.1 A.3 LA.2

Required Action D.1 — immediately

~~c. With less than the number of operating coolant loops required by item d above, restore the required number of coolant loops within 2 hours or lower the reactor coolant system temperature below P-12.~~ L.2 M.2

ACTION D — OR Two required RCS loops inoperable — d. With no reactor coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System** and immediately initiate corrective action to return the required coolant loop to operation. M.2 L.3

Add proposed Required Action D.1 M.2

SURVEILLANCE REQUIREMENTS

Add proposed SR 3.4.5.3 NOTE L.4

SR 3.4.5.3 — 4.4.1.2.1 At least the above required reactor coolant pumps, if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

SR 3.4.5.1 — 4.4.1.2.2 At least one cooling loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. LA.3

Add proposed SR 3.4.5.2 M.3

~~** For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.8.b.2.~~ L.3

ITS 3.4.6

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

HOT SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.4.6 3.4.1.3 a. The coolant loops listed below shall be OPERABLE and in operation as required by items b and c:

1. ~~Reactor Coolant Loop 1 and its associated steam generator and reactor coolant pump,*~~
2. ~~Reactor Coolant Loop 2 and its associated steam generator and reactor coolant pump,*~~
3. ~~Reactor Coolant Loop 3 and its associated steam generator and reactor coolant pump,*~~
4. ~~Reactor Coolant Loop 4 and its associated steam generator and reactor coolant pump,*~~
5. ~~Residual Heat Removal - East,~~
6. ~~Residual Heat Removal - West~~

LA.1

b. At least two of the above coolant loops shall be OPERABLE and at least one loop in operation if the reactor trip breakers are in the open position, or the control rod drive system is not capable of rod withdrawal.**

L.1

c. ~~At least three of the above reactor coolant loops shall be OPERABLE and in operation when the reactor trip system breakers are in the closed position and the control rod drive system is capable of rod withdrawal.~~

APPLICABILITY: MODE 4

~~* Operability of a reactor coolant loop(s) does not require an OPERABLE auxiliary feedwater system.~~

A.2

M.1

LCO 3.4.6 Note

per 8 hour period

** All reactor coolant pumps and residual heat removal pumps may be ~~de-energized~~ removed from operation for up to 1 hour provided 1) no operations are permitted that would cause dilution of the reactor coolant system boron concentration***, and 2) core outlet temperature is maintained at least 10°F below saturation temperature.

A.3

L.2

~~*** For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.8.b.2.~~

ITS 3.4.6

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION (Continued)

M.2

ACTION:

Add proposed Required Action A 2 Note — L.3

one

ACTIONS A and B — a. With ~~less~~ one than the above required loops OPERABLE, immediately initiate corrective action to return the required loops to OPERABLE status as soon as possible; ~~be in COLD SHUTDOWN within 20 hours.~~ 24 — Add proposed Required Actions B.1 and B.2

~~b. With less than the number of operating coolant loops required by item c above, restore the required number of coolant loops within 2 hours or open the reactor trip breakers.~~ L.3 L.1

ACTION B — c. With no coolant loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System*** and immediately initiate corrective action to return the required coolant loop to operation. L.2

SURVEILLANCE REQUIREMENTS

~~4.4.1.3.1 The required residual heat removal loop(s) shall be determined OPERABLE per Specification 4.0.5.~~ A.4

or RHR — M.3

SR 3.4.6.3 — 4.4.1.3.2 The required reactor coolant pump(s), if not in operation, shall be determined to be OPERABLE once per 7 days by verifying correct breaker alignments and indicated power availability.

Not required to be performed until 24 hours after a required pump is not in operation — L.4

SR 3.4.6.2 — 4.4.1.3.3 The required steam generator(s) shall be determined OPERABLE by verifying secondary side level to be greater than or equal to 76% of wide range instrument span at least once per 12 hours. L.5

above the top of the U-tubes

SR 3.4.6.1 — 4.4.1.3.4 At least one coolant loop shall be verified to be in operation and circulating reactor coolant at least once per 12 hours. LA.2

~~*** For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.8.b.2.~~ L.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

LCO 3.4.7 — 3.4.1.4 At least one residual heat removal (RHR) loop† shall be OPERABLE and in operation*, and either:

a. One additional RHR loop shall be OPERABLE**, or

above the top of the U-tubes — L.3

b. The secondary side water level of at least two steam generators shall be ~~greater than or equal to 76% of wide range instrument span.~~

APPLICABILITY: *MODE 5 with reactor coolant loops filled.****

ACTION:

ACTIONS A and B — a. With one of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible. Add proposed Condition C first part — M.1

ACTION C — b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the ~~required~~ RHR loop to operation. — L.1

OPERABLE status and

one — M.1

SURVEILLANCE REQUIREMENTS

SR 3.4.7.2 — 4.4.1.4.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

SR 3.4.7.1 — 4.4.1.4.2 At least one RHR loop shall be determined to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. — LA.1

Add proposed SR 3.4.7.3 — M.2

per 8 hour period — M.3

LCO 3.4.7 Note 1 — * The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration,†† and (2) core outlet temperature is maintained at least 10°F below saturation temperature. — L.1

LCO 3.4.7 Note 2 — ** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

*** A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 152°F unless (1) the pressurizer water volume is less than 62% of span or (2) the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures. Operability of a reactor coolant loop(s) does not require an OPERABLE auxiliary feedwater system. — See ITS 3.4.12

† ~~The normal or emergency power source may be inoperable.~~ — A.2

†† ~~For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.7.b.2.~~ — L.1

Add proposed LCO 3.4.7 Note 3 — L.2

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ITS 3.4.12

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS FILLED

LIMITING CONDITION FOR OPERATION

3.4.1.4 At least one residual heat removal (RHR) loop† shall be OPERABLE and in operation*, and either:

a. One additional RHR loop shall be OPERABLE**, or

b. The secondary side water level of at least two steam generators shall be greater than or equal to 76% of wide range instrument span.

APPLICABILITY: *MODE 5 with reactor coolant loops filled.****

ACTION:

a. With one of the RHR loops inoperable and with less than the required steam generator water level, immediately initiate corrective action to return the inoperable RHR loop to OPERABLE status or restore the required steam generator water level as soon as possible. See ITS 3.4.7

b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the required RHR loop to operation.

SURVEILLANCE REQUIREMENTS

4.4.1.4.1 The secondary side water level of at least two steam generators when required shall be determined to be within limits at least once per 12 hours.

4.4.1.4.2 At least one RHR loop shall be determined to be in operation and circulating reactor coolant at least once per 12 hours.

* The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration,†† and (2) core outlet temperature is maintained at least 10°F below saturation temperature.

** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

LCO 3.4.12.c *** A reactor coolant pump shall not be started with one or more of the Reactor Coolant System cold leg temperatures less than or equal to 152°F unless (1) the pressurizer water volume is less than 62% of span or (2) the secondary water temperature of each steam generator is less than 50°F above each of the Reactor Coolant System cold leg temperatures. ~~Operability of a reactor coolant loop(s) does not require an OPERABLE auxiliary feedwater system.~~ A.4

† The normal or emergency power source may be inoperable.

†† For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.7.b.2. See ITS 3.4.7

Add proposed third Condition of Condition G M.5

COOK NUCLEAR PLANT-UNIT 2 Page 3/4 4-3b AMENDMENT 82, 208

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

COLD SHUTDOWN - LOOPS NOT FILLED

LIMITING CONDITION FOR OPERATION

LCO 3.4.8 3.4.1.5 At least two residual heat removal (RHR) loops† shall be OPERABLE** and at least one RHR loop shall be in operation.*

APPLICABILITY: MODE 5 with reactor coolant loops not filled.

ACTION:

ACTION A a. With less than the above required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible. M.1

Add proposed Condition B first part

ACTION B b. With no RHR loop in operation, suspend all operations involving a reduction in boron concentration of the Reactor Coolant System and immediately initiate corrective action to return the ~~required~~ RHR loop to operation. L.1 M.1

one

OPERABLE status and

SURVEILLANCE REQUIREMENTS

SR 3.4.8.1 4.4.1.5 At least one RHR loop shall be determined to be in operation ~~and circulating reactor coolant~~ at least once per 12 hours. LA.1

Add proposed SR 3.4.8.2 M.2

M.3

LCO 3.4.8 Note 1 * The RHR pump may be deenergized for up to 1 hour provided: (1) no operations are permitted that would cause dilution of the Reactor Coolant System boron concentration,†† and (2) core outlet temperature is maintained at least 10°F below saturation temperature. L.1

Add proposed LCO 3.4.8 Note 1 part c M.3

LCO 3.4.8 Note 2 ** One RHR loop may be inoperable for up to 2 hours for surveillance testing provided the other RHR loop is OPERABLE and in operation.

† The normal or emergency power source may be inoperable. A.2

†† ~~For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.7.b.2.~~ L.1

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A.1

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ITS 3.4.10

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

SAFETY VALVES - SHUTDOWN

LIMITING CONDITION FOR OPERATION

M.1

LCO 3.4.10 — 3.4.2 A minimum of ~~one~~ three pressurizer code safety valve shall be OPERABLE with a lift setting of 2485 PSIG ±3%.*#

L.1 — with all RCS cold leg temperatures > 299°F

APPLICABILITY: MODES 4 ~~and 5~~.

L.2 — Add proposed Applicability Note

ACTION:

ACTIONS A and B

~~With no pressurizer code safety valve OPERABLE:~~

~~a. Immediately suspend all operations involving positive reactivity changes except addition of water from the RWST, provided the boron concentration in the RWST is greater than the minimum required by Specification 3.1.2.8.b.2 (MODE 4) or 3.1.2.7.b.2 (MODE 5), and place an OPERABLE RHR loop into operation in the shutdown cooling mode, and~~

~~b. Immediately render all Safety Injection pumps and all but one charging pump inoperable by removing the applicable motor circuit breakers from the electric power circuit within one hour.~~

M.1 — Add proposed ACTION A

L.3, M.1 — Add proposed ACTION B

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1 — 4.4.2 ~~No additional Surveillance Requirements other than those required by Specification 4.0.5.~~

A.2 — Add proposed SR 3.4.10.1

LA.1 — ~~* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.~~

SR 3.4.10.1 — # The pressurizer code safety valve shall be reset to the nominal value ±1% whenever found outside the ±1% tolerance.

ITS 3.4.10

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

SAFETY VALVES - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.4.10 — 3.4.3 All pressurizer code safety valves shall be OPERABLE with a lift setting of 2485 PSIG ± 3%.*#

APPLICABILITY: MODES 1, 2 and 3.

Add proposed Applicability Note — L.2

ACTION:

ACTION A — With one pressurizer code safety valve inoperable, either restore the inoperable valve to OPERABLE status within 15 minutes or
ACTION B — ~~be in HOT SHUTDOWN within 12 hours.~~ 24

MODE 4 with any RCS cold loop temperature ≤ 299°F

Add proposed Required Action B.1

Add second part of Condition B

L.4

SURVEILLANCE REQUIREMENTS

SR 3.4.10.1 — 4.4.3 ~~No additional Surveillance Requirements other than those required by Specification 4.0.5.~~

Add proposed SR 3.4.10.1 — A.2

~~* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.~~ — LA.1

SR 3.4.10.1 — # The pressurizer code safety valve shall be reset to the nominal value ±1% whenever found outside the ±1% tolerance.

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ITS 3.4.9

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

LCO 3.4.9 3.4.4 The pressurizer shall be OPERABLE with a water ~~volume~~ level less than or equal to 92% of span and two trains of backup pressurizer heaters with the capacity of each train greater than or equal to 150 kW. A.2 A.3

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

ACTION B, ACTION C — a. With the pressurizer inoperable due to an inoperable train of pressurizer heaters, either restore the inoperable train within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within ~~the following~~ 12 hours. M.1 A.4

ACTION A — b. With the pressurizer water level not within limit ~~otherwise inoperable~~, be in at least HOT SHUTDOWN ~~with the reactor trip breakers open~~ within 12 hours.

Add proposed Required Actions A.1, A.2, and A.3 M.2

SURVEILLANCE REQUIREMENTS

SR 3.4.9.1 4.4.4.1 The pressurizer water ~~volume~~ level shall be determined to be within its limit at least once per 12 hours. A.2

SR 3.4.9.2 4.4.4.2 The pressurizer backup heaters shall be demonstrated OPERABLE at least once per ~~18~~ 24 months by energizing the required capacity of heaters in each train. A.3 L.1

ITS 3.4.13

ITS

A.1

REACTOR COOLANT SYSTEM

STEAM GENERATORS

LIMITING CONDITION FOR OPERATION

~~3.4.5 Each steam generator shall be OPERABLE.~~ A.2

APPLICABILITY: ~~MODES 1, 2, 3 and 4.*~~ A.3

ACTION: Add proposed ACTION B (Condition third part) M.2

~~With one or more steam generators inoperable, restore the inoperable generator(s) to OPERABLE status prior to increasing T_{avg} above 200°F.~~

SURVEILLANCE REQUIREMENTS

SR 3.4.13.2 ~~4.4.5.0 Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirement of Specification 4.0.5.~~ A.2

4.4.5.1 Steam Generator Sample Selection and Inspection - Each steam generator shall be determined OPERABLE during shutdown by selecting and inspecting at least the minimum number of steam generators specified in Table 4.4-1.

4.4.5.2 Steam Generator Tube Sample Selection and Inspection - The steam generator tube minimum sample size, inspection result classification, and the corresponding action required shall be as specified in Table 4.4-2. The inservice inspection of steam generator tubes shall be performed at the frequencies specified in Specification 4.4.5.3 and the inspected tubes shall be verified acceptable per the acceptance criteria of Specification 4.4.5.4. The tubes selected for each inservice inspection shall include at least 3% of the total number of tubes in all steam generators; the tubes selected for these inspections shall be selected on a random basis except: See ITS 5.5

a. Where experience in similar plants with similar water chemistry indicates critical areas to be inspected, then at least 50% of the tubes inspected shall be from these critical areas.

b. The first sample of tubes selected for each inservice inspection (subsequent to the preservice inspection) of each steam generator shall include:

~~* This Specification does not apply in Mode 4 while performing crevice flushing as long as Limiting Conditions For Operation for Specification 3.4.1.3 are maintained.~~ A.3

ITS 5.5

A.1

ITS

REACTOR COOLANT SYSTEM

STEAM GENERATORS

LIMITING CONDITION FOR OPERATION

3.4.5 Each steam generator shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.* See ITS 3.4.13

ACTION:

With one or more steam generators inoperable, restore the inoperable generator(s) to OPERABLE status prior to increasing T_{avg} above 200°F.

SURVEILLANCE REQUIREMENTS

4.4.5.0 Each steam generator shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirement of Specification 4.0.5.

5.5.7 4.4.5.1 Steam Generator Sample Selection and Inspection - Each steam generator shall be determined OPERABLE during shutdown by selecting and inspecting at least the minimum number of steam generators specified in Table 4.4-1.

Add proposed ITS 5.5.7 generic program description A.6

5.5.7 4.4.5.2 Steam Generator Tube Sample Selection and Inspection - The steam generator tube minimum sample size, inspection result classification, and the corresponding action required shall be as specified in Table 4.4-2. The inservice inspection of steam generator tubes shall be performed at the frequencies specified in Specification 4.4.5.3 and the inspected tubes shall be verified acceptable per the acceptance criteria of Specification 4.4.5.4. The tubes selected for each inservice inspection shall include at least 3% of the total number of tubes in all steam generators; the tubes selected for these inspections shall be selected on a random basis except:

5.5.7.a

5.5.7.a.1 a. Where experience in similar plants with similar water chemistry indicates critical areas to be inspected, then at least 50% of the tubes inspected shall be from these critical areas.

5.5.7.a.2 b. The first sample of tubes selected for each inservice inspection (subsequent to the preservice inspection) of each steam generator shall include:

* This Specification does not apply in Mode 4 while performing crevice flushing as long as Limiting Conditions For Operation for Specification 3.4.1.3 are maintained. See ITS 3.4.13

ITS 5.5

A.1

ITS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

5.5.7.a.2.a) 1. All nonplugged tubes that previously had detectable wall penetrations (>20%).

5.5.7.a.2.b) 2. Tubes in those areas where experience has indicated potential problems.

5.5.7.a.2.c) 3. A tube inspection (pursuant to Specification 4.4.5.4.a.8) shall be performed on each selected tube. If any selected tube does not permit the passage of the eddy current probe for a tube inspection, this shall be recorded and an adjacent tube shall be selected and subjected to a tube inspection.

5.5.7.a.3 c. The tubes selected as the second and third samples (if required by Table 4.4-2) during each inservice inspection may be subjected to a partial tube inspection provided:

5.5.7.a.3.a) 1. The tubes selected for these samples include the tubes from those areas of the tube sheet array where tubes with imperfections were previously found.

5.5.7.a.3.b) 2. The inspections include those portions of the tubes where imperfections were previously found.

5.5.7.b The results of each sample inspection shall be classified into one of the following three categories:

Category	Inspection Results
C-1	Less than 5% of the total tubes inspected are degraded tubes and none of the inspected tubes are defective.
C-2	One or more tubes, but not more than 1% of the total tubes inspected are defective, or between 5% and 10% of the total tubes inspected are degraded tubes.
C-3	More than 10% of the total tubes inspected are degraded tubes or more than 1% of the inspected tubes are defective.

Note: In all inspections, previously degraded tubes must exhibit significant (>10%) further wall penetrations to be included in the above percentage calculations.

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ITS 5.5

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A.1

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

5.5.7.c 4.4.5.3 Inspection Frequencies - The above required inservice inspections of steam generator tubes shall be performed at the following frequencies:

5.5.7.c.1 a. The first inservice inspection shall be performed after 6 Effective Full Power Months but within 24 calendar months of initial criticality. Subsequent inservice inspections shall be performed at intervals of not less than 12 nor more than 24 calendar months after the previous inspection. If two consecutive inspections following service under AVT conditions, not including the preservice inspection, result in all inspection results falling into the C-1 category or if two consecutive inspections demonstrate that previously observed degradation has not continued and no additional degradation has occurred, the inspection interval may be extended to a maximum of once per 40 months.

5.5.7.c.2 b. If the results of the inservice inspection of a steam generator conducted in accordance with Table 4.4-2 at 40 month intervals fall in Category C-3, the inspection frequency shall be increased to at least once per 20 months. The increase in inspection frequency shall apply until the subsequent inspections satisfy the criteria of Specification 4.4.5.3.a; the interval may then be extended to a maximum of once per 40 months.

5.5.7.c.3 c. Additional, unscheduled inservice inspections shall be performed on each steam generator in accordance with the first sample inspection specified in Table 4.4-2 during the shutdown subsequent to any of the following conditions:

5.5.7.c.3.a) 1. Primary-to-secondary tubes leaks (not including leaks originating from tube-to-tube sheet welds) in excess of the limits of Specification 3.4.6.2.

5.5.7.c.3.b) 2. A seismic occurrence greater than the Operating Basis Earthquake.

5.5.7.c.3.c) 3. A loss-of-coolant accident requiring actuation of the engineered safeguards.

5.5.7.c.3.d) 4. A main steam line or feedwater line break.

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ITS 5.5

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REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

5.5.7.d 4.4.5.4 Acceptance Criteria

5.5.7.d.1 a. As used in this Specification:

5.5.7.d.1.a) 1. Imperfection means an exception to the dimensions, finish or contour of a tube from that required by fabrication drawings or specifications. Eddy-current testing indications below 20% of the nominal tube wall thickness, if detectable, may be considered as imperfections.

5.5.7.d.1.b) 2. Degradation means a service-induced cracking, wastage, wear or general corrosion occurring on either inside or outside of a tube.

5.5.7.d.1.c) 3. Degraded Tube means a tube containing imperfections ≥20% of the nominal wall thickness caused by degradation.

5.5.7.d.1.d) 4. % Degradation means the percentage of the tube wall thickness affected or removed by degradation.

5.5.7.d.1.e) 5. Defect means an imperfection of such severity that it exceeds the plugging limit. A tube containing a defect is defective.

5.5.7.d.1.f) 6. Plugging Limit means the imperfection depth at or beyond which the tube shall be removed from service because it may become unserviceable prior to the next inspection and is equal to 40% of the nominal tube wall thickness.

5.5.7.d.1.g) 7. Unserviceable describes the condition of a tube if it leaks or contains a defect large enough to affect its structural integrity in the event of an Operating Basis Earthquake, a loss-of-coolant accident, or a steam line or feedwater line break as specified in 4.4.5.3.c, above.

5.5.7.d.1.h) 8. Tube Inspection means an inspection of the steam generator tube from the point of entry (hot leg side) completely around the U-bend to the top support of the cold leg.

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ITS 5.5

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REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

5.5.7.d.1.i) 9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service establish a baseline condition of the tubing. This inspection shall be performed after the field hydrostatic test and prior to initial POWER OPERATION using the equipment and techniques expected to be used during subsequent inservice inspections.

5.5.7.d.2 b. The steam generator shall be determined OPERABLE after completing the corresponding actions (plug all tubes exceeding the plugging limit and all tubes containing through-wall cracks) required by Table 4.4-2.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the SG Program test Frequencies. A.6

4.4.5.5 Reports

a. Following each inservice inspection of steam generator tubes, the number of tubes plugged in each steam generator shall be reported to the Commission within 15 days.

b. The complete 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 an imperfection.

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 pursuant to Specification 6.9.1 prior to resumption of plant operation. The written followup of this report shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

See ITS 5.6

A.1

ITS 5.6

ITS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

9. Preservice Inspection means an inspection of the full length of each tube in each steam generator performed by eddy current techniques prior to service establish a baseline condition of the tubing. This inspection shall be performed after the field hydrostatic test and prior to initial POWER OPERATION using the equipment and techniques expected to be used during subsequent inservice inspections.

b. The steam generator shall be determined OPERABLE after completing the corresponding actions (plug all tubes exceeding the plugging limit and all tubes containing through-wall cracks) required by Table 4.4-2.

See ITS 5.5

5.6.7 4.4.5.5 Reports

a. Following each inservice inspection of steam generator tubes, the number of tubes plugged in each steam generator shall be reported to the Commission within 15 days.

b. The complete 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:

A.8

1. Number and extent of tubes inspected.

2. Location and percent of wall-thickness penetration for each indication of an imperfection.

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 pursuant to Specification 6.9.1 prior to resumption of plant operation. The written followup of this report shall provide a description of investigations conducted to determine cause of the tube degradation and corrective measures taken to prevent recurrence.

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A.1

ITS

Table 5.5.7-1

TABLE 4.4-1

MINIMUM NUMBER OF STEAM GENERATORS TO BE

INSPECTED DURING INSERVICE INSPECTION

Preservice Inspection	Yes
No. of Steam Generators per Unit	Four
First Inservice Inspection	Two
Second & Subsequent Inservice Inspections	One[2]

Table Notation:

Table 5.5.7-1 Footnote (a)

1. The inservice inspection may be limited to one steam generator on a rotating schedule encompassing 3 N % of the tubes (where N is the number of steam generators in the plant) if the results of the first or previous inspections indicate that all steam generators are performing in a like manner. Note that under some circumstances, the operating conditions in one or more steam generators may be found to be more severe than those in other steam generators. Under such circumstances the sample sequence shall be modified to inspect the most severe conditions.

Table 5.5.7-1 Footnote (a)

he third and fourth steam generators not inspected during the first inservice inspection hall be inspected during the second and third inspections, respectively. The fourth and bsequent inspections shall follow the instructions described in 1 above.

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Table 5.5.7-2

TABLE 4.4-2
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 each other S.G. Prompt notification to NRC pursuant to specification 6.9.1	All 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 to NRC pursuant to specification 6.9.1.	N/A	N/A

S = 3(N/n)% Where N is the number of steam generators in the unit, and n is the number of steam generators inspected during an inspection.

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ITS 3.4.15

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

3/4.4.6 REACTOR COOLANT SYSTEM LEAKAGE

LEAKAGE DETECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

LCO 3.4.15 — 3.4.6.1 The following Reactor Coolant System leakage detection systems shall be OPERABLE: (L.2)

LCO 3.4.15.b — a. One ~~of the~~ containment atmosphere particulate radioactivity monitoring channels ~~(ERS-2301 or ERS-2401)~~. (L.1) (A.2)

LCO 3.4.15.a — b. The containment sump level and flow monitoring system, and

LCO 3.4.15.c — c. ~~Either the~~ One containment humidity monitor or ~~one of the~~ containment atmosphere gaseous (L.2)

LCO 3.4.15.b — radioactivity monitoring channels ~~(ERS-2305 or ERS-2405)~~. (L.1)

APPLICABILITY: MODES 1, 2, 3 and 4 — Add proposed ACTIONS Note (L.3)

ACTION: (L.5)

ACTIONS A, B, C, and D — With only two of the above required leakage detection systems OPERABLE, operation may continue for up to 30 days provided grab samples of the containment atmosphere are obtained and analyzed at least once per 24 hours when the required gaseous and/or particulate radioactivity monitoring channels are inoperable; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. — Add proposed Required Action A.1 (M.1) (L.5)

Required Actions B.1.1 and C.1 — Add proposed Required Actions B.1.2 and C.2 (L.4)

ACTION E — Add proposed ACTION F (L.5)

SURVEILLANCE REQUIREMENTS

SR 3.4.15.1, SR 3.4.15.2, SR 3.4.15.4 — 4.4.6.1 The leakage detection systems shall be demonstrated OPERABLE by:

a. Containment atmosphere ~~particulate and gaseous (if being used)~~ monitoring system-performance of CHANNEL CHECK, CHANNEL CALIBRATION and ~~CHANNEL FUNCTIONAL TEST~~ COT at the frequencies specified in Table 4.3-3. (L.2) (A.3) (A.2)

SR 3.4.15.3 — b. Containment sump level and flow monitoring system performance of CHANNEL CALIBRATION at least once per ~~18~~ 24 months. (L.6)

SR 3.4.15.5 — c. Containment humidity monitor ~~(if being used)~~ - performance of CHANNEL CALIBRATION at least once per ~~18~~ 24 months. (L.2) (L.6)

ITS 3.4.13

ITS

A.1

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

LCO 3.4.13 3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

e. Seal line resistance greater than or equal to 2.27E-1 ft/gpm^2 and, See ITS 3.5.5

f. The leakage from each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-0 shall be limited to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at a Reactor Coolant System average pressure within 20 psi of the nominal full pressure value. See ITS 3.4.14

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

ACTION:

ACTION B a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION A b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or

ACTION B be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. See ITS 3.4.14

* Specification 3.4.6.2.e is applicable with average pressurizer pressure within 20 psi of the nominal full pressure value. See ITS 3.5.5

ITS 3.4.14

ITS

A.1

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

See ITS 3.4.13

e. Seal line resistance greater than or equal to 2.27E-1 ft/gpm² and,

See ITS 3.5.5

LCO 3.4.14

SR 3.4.14.1

f. The leakage from each Reactor Coolant System Pressure Isolation Valve ~~specified in Table 3.4-0~~ shall be limited to 0.5 gpm per nominal inch ~~of valve size up to a maximum of 5 gpm,~~ at a Reactor Coolant System average pressure ~~within 20 psi of the nominal full pressure value.~~

LA.1

A.2

L.1

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

See ITS 3.5.5

ACTION:

Add proposed ACTIONS Note 1

A.3

Add proposed ACTIONS Note 2

A.4

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.4.13

ACTION A

c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in

ACTION B

at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Add proposed Required Actions A.1 and A.2 Note

M.1

L.2

* Specification 3.4.6.2.e is applicable with average pressurizer pressure within 20 psi of the nominal full pressure value.

See ITS 3.5.5

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ITS 3.5.5

A.1

ITS

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

a. No PRESSURE BOUNDARY LEAKAGE,

b. 1 GPM UNIDENTIFIED LEAKAGE,

c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,

d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,

See ITS 3.4.13

LCO 3.5.5 e. Seal line resistance greater than or equal to 2.27E-1 ft/gpm² and,

f. The leakage from each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-0 shall be limited to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at a Reactor Coolant System average pressure within 20 psi of the nominal full pressure value.

See ITS 3.4.14

APPLICABILITY: MODES 1, 2, 3 ~~and 4~~.* L.1

ACTION:

a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.4.13

ACTION A b. ~~With any Reactor Coolant System leakage greater than any one of the above~~ Seal line resistance not within limits, ~~excluding PRESSURE BOUNDARY LEAKAGE~~, reduce the leakage rate to within limits within 4 hours ~~or~~ be in at least HOT STANDBY A.2

ACTION B within the next 6 hours and in ~~COLD SHUTDOWN within the following 30 hours~~ MODE 4 within 12 hours. L.1

c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.4.14

LA.1

SR 3.5.5.1 Note * Specification 3.4.6.2.e is applicable with ~~average~~ pressurizer pressure ~~within~~ ~~20~~ 10 ~~psi of the nominal full pressure value~~. A.3

M.1

AMENDMENT NO. ~~146~~, 174

ITS

A.1

REACTOR COOLANT SYSTEM

LIMITING CONDITIONS FOR OPERATION (Continued)

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. ~~Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.~~ L.1

b. ~~Monitoring the containment sump inventory and discharge at least once per 12 hours.~~

c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm². The seal line resistance, R_{SL}, is determined from the following expression:

$$R_{SL} = \frac{2.31\ (P_{CHP} - P_{SI})}{Q^2}$$

where: P_{CHP} = charging pump header pressure, psig

P_{SI} = 2262 psig (high pressure operation)

2.31 = conversion factor (12 in/ft)^2/(62.3 lb/ft^3)

Q = the total seal injection flow, gpm

The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 and 4.

See ITS 3.5.5

Add proposed SR 3.4.13.1 Note — L.2

SR 3.4.13.1 d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

e. ~~Monitoring the reactor head flange leakoff system at least once per 24 hours.~~ L.1

4.4.6.2.2. Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE pursuant to Specification 4.0.5.

See ITS 3.4.14

ITS 3.4.14

ITS

A.1

REACTOR COOLANT SYSTEM

LIMITING CONDITIONS FOR OPERATION (Continued)

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by: See ITS 3.4.13

a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.

b. Monitoring the containment sump inventory and discharge at least once per 12 hours.

c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm^2. The seal line resistance, R_{SL}, is determined from the following expression: See ITS 3.5.5

$$R_{SL} = \frac{2.31\ (P_{CHP} - P_{SI})}{Q^2}$$

where: P_{CHP} = charging pump header pressure, psig

P_{SI} = 2262 psig (high pressure operation)

2.31 = conversion factor (12 in/ft)^2/(62.3 lb/ft^3)

Q = the total seal injection flow, gpm

The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 and 4.

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and See ITS 3.4.13

e. Monitoring the reactor head flange leakoff system at least once per 24 hours.

SR 3.4.14.1 4.4.6.2.2. Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE pursuant to Specification 4.0.5. Add proposed SR 3.4.14.1 Note L.3 LA.1

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ITS 3.5.5

A.1

ITS

REACTOR COOLANT SYSTEM

LIMITING CONDITIONS FOR OPERATION (Continued)

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours. (See ITS 3.4.13)

b. Monitoring the containment sump inventory and discharge at least once per 12 hours. LA.1

SR 3.5.5.1 c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. 10 M.1 A.3 The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm². The seal line resistance, R_{SL}, is determined from the following expression:

$$R_{SL} = \frac{2.31 (P_{CHP} - P_{SI})}{Q^2}$$

where: P_{CHP} = charging pump header pressure, psig LA.2

P_{SI} = ~~2262~~ 2290 psig (high pressure operation) M.1

2.31 = conversion factor $(12\ in/ft)^2/(62.3\ lb/ft^3)$

Q = the total seal injection flow, gpm

Note to SR 3.5.5.1 The provisions of Specification ~~4.0.4~~ are not applicable for entry into MODES 3 and 4. M.2

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

e. Monitoring the reactor head flange leakoff system at least once per 24 hours. (See ITS 3.4.13)

4.4.6.2.2. Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE pursuant to Specification 4.0.5. (See ITS 3.4.14)

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ITS 3.4.13

ITS

A.1

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE

Valve Number	Valve Size (in.)	Function (a)	Maximum Allowable Leakage (gpm)
SI-170L2	10	ECCS to Reactor Coolant Loop #2 Cold Leg	5
RH 133	8	RHR to Reactor Coolant Loop #2 Cold Leg	4
SI-170L3	10	ECCS to Reactor Coolant Loop #3 Cold Leg	5
RH 134	8	RHR to Reactor Coolant Loop #3 Cold Leg	4

See ITS 3.4.14

(a) Minimum test differential pressure shall not be below 150 psid.

See ITS 3.4.14

ITS

ITS 3.4.14

A.1

LA.2

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE

LA.1

Valve Number	Valve Size (in.)	Function (a)	Maximum Allowable Leakage (gpm)
SI-170L2	10	ECCS to Reactor Coolant Loop #2 Cold Leg	5
RH 133	8	RHR to Reactor Coolant Loop #2 Cold Leg	4
SI-170L3	10	ECCS to Reactor Coolant Loop #3 Cold Leg	5
RH 134	8	RHR to Reactor Coolant Loop #3 Cold Leg	4

A.5

(a) Minimum test differential pressure shall not be below 150 psid.

LA.2

A.1

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CTS 3/4.4.7

R.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

CHEMISTRY

LIMITING CONDITION FOR OPERATION

3.4.7 The Reactor Coolant System chemistry shall be maintained within the limits specified in Table 3.41.

APPLICABILITY: At all times.

ACTION:

MODES 1, 2, 3 and 4

a. With any one or more chemistry parameter in excess of its Steady State Limit but within its Transient Limit, restore the Parameter to within its Steady State Limit within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With any one or more chemistry parameter in excess of its Transient Limit, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

At all other times

With the concentration of either chloride or fluoride in the Reactor Coolant System in excess of its Steady State Limit for more than 24 hours or in excess of its Transient Limit, reduce the pressurizer pressure to ≤ 500 psig, if applicable, and perform an engineering evaluation to determine the effects of the out-of-limit condition on the structural integrity of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation prior to increasing the pressurizer pressure above 500 psig or prior to proceeding to MODE 4.

SURVEILLANCE REQUIREMENTS

4.4.7 The Reactor Coolant System chemistry shall be determined to be within the limits by analysis of those parameters at the frequencies specified in Table 4.4-3. Performance of this surveillance is not required when the reactor is defueled with no forced circulation.

CTS 3/4.4.7

R.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

TABLE 3.4-1

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS

PARAMETER	STEADY STATE LIMIT	TRANSIENT LIMIT
DISSOLVED OXYGEN*	≤ 0.10 ppm	≤ 1.00 ppm
CHLORIDE	≤ 0.15 ppm	≤ 1.50 ppm
FLUORIDE	≤ 0.15 ppm	≤ 1.50 ppm

*Limits not applicable with T_{avg} ≤ 250°F.

COOK NUCLEAR PLANT - UNIT 2 Page 3/4 4-18 AMENDMENT 214

CTS 3/4.4.7

R.1

TABLE 4.4-3

REACTOR COOLANT SYSTEM

CHEMISTRY LIMITS SURVEILLANCE REQUIREMENTS

PARAMETER	SAMPLE AND ANALYSIS FREQUENCY
DISSOLVED OXYGEN*	At least once per 72 hours
CHLORIDE	At least once per 72 hours
FLUORIDE	At least once per 72 hours

*Not required with $T_{avg} \leq 250°F$.

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

SPECIFIC ACTIVITY

LIMITING CONDITION FOR OPERATION

LCO 3.4.16 — 3.4.8 The specific activity of the primary coolant shall be limited to:

SR 3.4.16.2 — a. Less than or equal to 1 microCurie per gram DOSE EQUIVALENT I-131, and

SR 3.4.16.1 — b. Less than or equal to 100/$\bar{E}$ microCuries per gram of gross radioactivity.

APPLICABILITY: MODES 1, 2, ~~3, 4 and 5~~ — L.1

ACTION:

MODES 1, 2 and 3* — Add proposed Condition A Note — L.2

ACTION A / ACTION B — a. With the specific activity of the reactor coolant greater than 1 microCurie per gram DOSE EQUIVALENT I-131 for more than 48 hours during one continuous time interval or exceeding the limit line shown on Figure 3.4-1, be in HOT STANDBY with T_{avg} less than 500°F within 6 hours.

ACTION B — b. With the specific activity of the reactor coolant greater than 100/$\bar{E}$ microCuries per gram, be in HOT STANDBY with T_{avg} less than 500°F within 6 hours.

MODES 1, 2, ~~3, 4 and 5~~ — L.1

ACTION A — a. With the specific activity of the reactor coolant greater than 1 microCurie per gram DOSE EQUIVALENT I-131 ~~or greater than 100/$\bar{E}$ microCuries per gram,~~ perform the sampling and analysis requirements of item 4a of Table 4.4-4 ~~until the specific activity of the reactor coolant is restored to within its limits.~~ — L.3 — A.2

SURVEILLANCE REQUIREMENTS

SR 3.4.16.1, SR 3.4.16.2, SR 3.4.16.3 — 4.4.8 The specific activity of the reactor coolant shall be determined to be within the limits by performance of the sampling and analysis program of Table 4.4-4.

APPLICABILITY — * With T_{avg} greater than or equal to 500°F.

A.1

ITS

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A.1

ITS

TABLE 4.4-4

PRIMARY COOLANT SPECIFIC ACTIVITY SAMPLE AND ANALYSIS PROGRAM

ITS	TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	MODES IN WHICH SAMPLE AND ANALYSIS REQUIRED	
SR 3.4.16.1	1. Gross Activity Determination	At least once per ~~72 hours~~ 7 days	1, 2, 3, ~~4~~	L.1, L.4
SR 3.4.16.2	2. Isotopic Analysis for DOSE EQUIVALENT I-131 Concentration	1 per 14 days	1	LA.1
SR 3.4.16.3	3. Radiochemical for $\bar{E}$ Determination	1 per 6 months* Add proposed Note to SR 3.4.16.3	1	L.5
Required Action A.1	4. Isotopic Analysis for ~~Iodine~~ Including I-131, ~~I-133~~, and I-135	a) Once per 4 hours, whenever the specific activity exceeds 1.0 µCi/gram DOSE EQUIVALENT I-131 or 100/$\bar{E}$ µCi/gram, and	1#, 2#, 3#, 4#, 5#	L.1, LA.1, L.3
SR 3.4.16.2		b) One sample between 2 & 6 hours following a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.	1, 2, 3	L.1

A.2

#Until the specific activity of the primary coolant system is restored within its ~~limits~~.

SR 3.4.16.3

*Sample to be taken after a minimum of 2 EFPD and 20 days of POWER OPERATION have elapsed since reactor was last subcritical for 48 hours or longer.

A.1

Figure 3.4.16-1

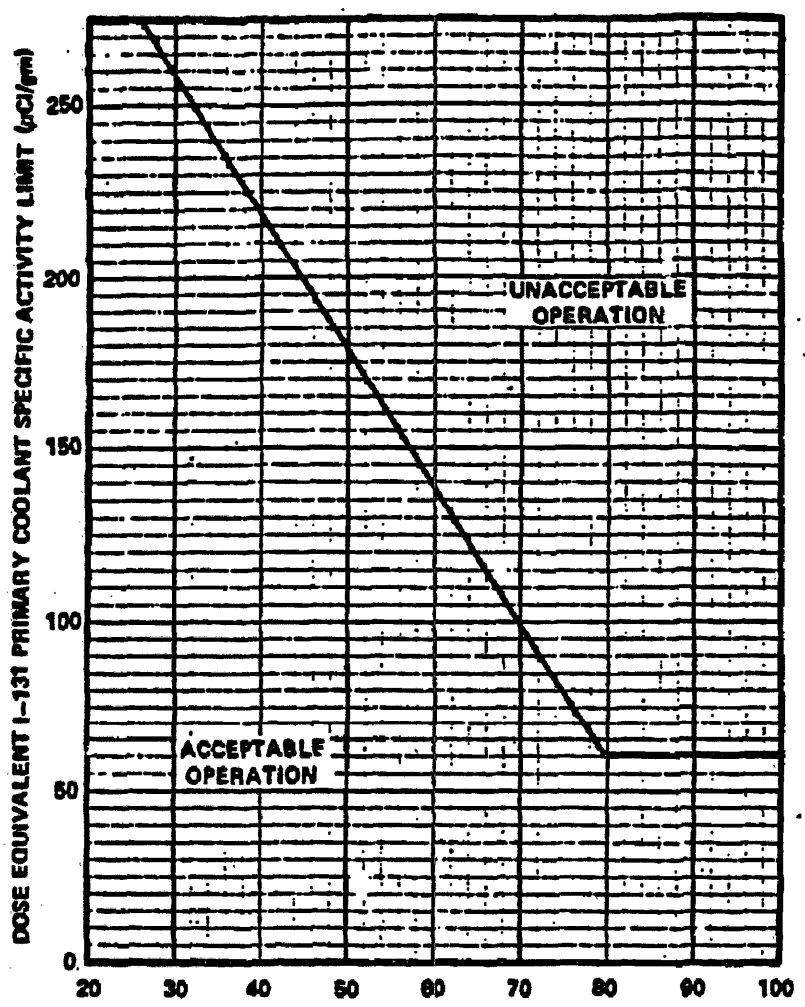


FIGURE 3.4-1

DOSE EQUIVALENT I-131 Primary Coolant Specific Activity Limit Versus Percent of RATED THERMAL POWER with the Primary Coolant Specific Activity > 1.0μCi/gram Dose Equivalent I-131

ITS 3.4.3

A.1

ITS

REACTOR COOLANT SYSTEM

3/4.4.9 PRESSURE/TEMPERATURE LIMITS

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.4.3 3.4.9.1 The Reactor Coolant System ~~(except the pressurizer)~~ temperature and pressure shall be limited in accordance with the limit lines shown on Figures 3.4-2 and 3.4-3 during heatup, cooldown, ~~criticality~~, and inservice leak and hydrostatic testing with: LA.1 A.2

a. A maximum heatup of 60°F in any one hour period.

b. A maximum cooldown of 100°F in any one hour period.

c. A maximum temperature of less than or equal to 5°F in any one hour period during inservice hydrostatic and leak testing operations above the heatup and cooldown limit curves.

APPLICABILITY: At all times.

ACTION:

Add proposed Conditions A and C Notes A.3

ACTIONS A and C — With any of the above limits exceeded, restore the temperature and/or pressure within the limit within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the fracture toughness properties of the Reactor Coolant System; determine that the Reactor Coolant System remains acceptable for continued operation or be A.4 LA.2

ACTION B — in at least HOT STANDBY within the next 6 hours and reduce the RCS T_{avg} and pressure to less than 200°F and 500 psig, respectively, within the following 30 hours.

Add proposed Required Actions A.2 and C.2 Completion Times M.1

SURVEILLANCE REQUIREMENTS

SR 3.4.3.1 4.4.9.1.1 The Reactor Coolant System temperature and pressure shall be determined to be within the limits at least once per 30 minutes during system heatup, cooldown, and inservice leak and hydrostatic testing operations.

~~4.4.9.1.2 The reactor vessel material irradiation surveillance specimens shall be removed and examined, to determine changes in material properties, at the intervals shown in Table 4.4-5. The results of these examinations shall be used to update Figures 3.4-2 and 3.4-3.~~ A.6

ITS 3.4.3

A.1

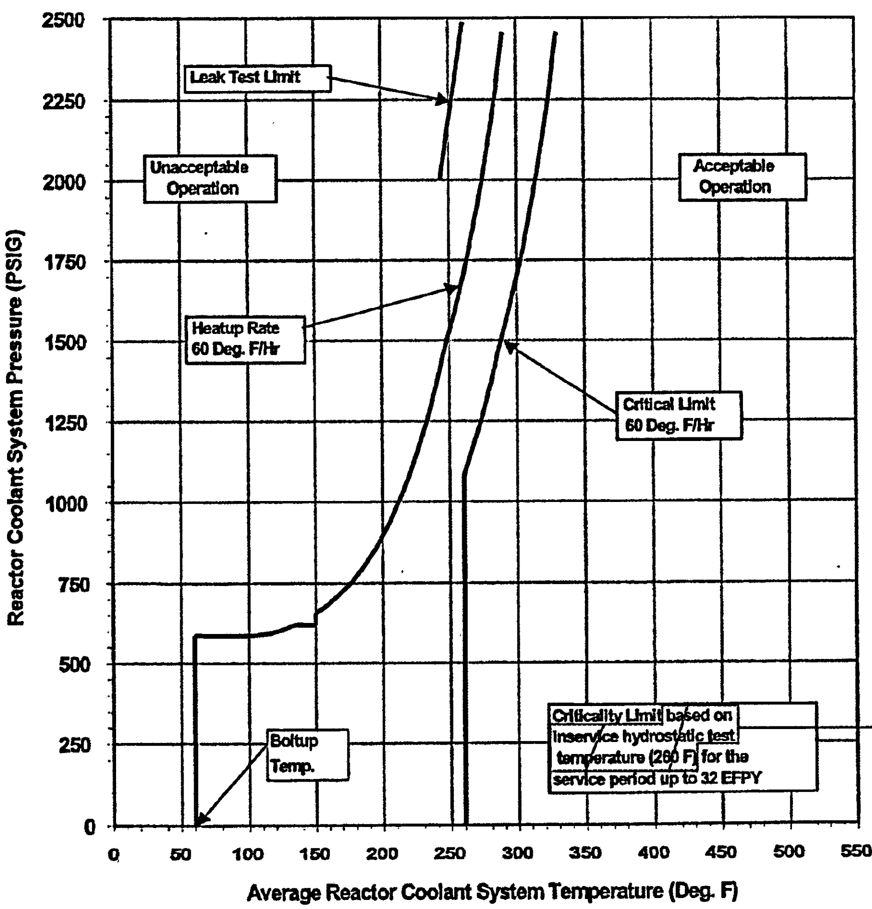
ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

Reactor Coolant System Heatup Limitations Without Margins for Instrumentation Error
Applicable for 32 EFPY of Operation
Limiting Material: Intermediate Shell Plate C5556-2, Cu = 0.15%, Ni = 0.57%
Initial ART: 58 Deg. F. Limiting ART Values at 32 EFPY: 1/4T = 200 Deg. F. 3/4T = 169 Deg. F

L.2

Figure 3.4.3-1



L.2

FIGURE 3.4-2
REACTOR COOLANT SYSTEM PRESSURE - TEMPERATURE LIMITS FOR 60 °F/HR RATE, CRITICALITY LIMIT, BOLTUP LIMIT, AND LEAK TEST LIMIT

ITS 3.4.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

Figure 3.4.3-2

Reactor Coolant System Cooldown Limitations ~~Without Margins for Instrumentation Error~~
Applicable for 32 EFPY of Operation
~~Limiting Material: Intermediate Shell Plate C5556-2, Cu = 0.15%, Ni = 0.57%~~
~~Initial ART: 58 Deg. F, Limiting ART Values at 32 EFPY: 1/4T = 200 Deg. F, 3/4T = 169 Deg. F~~

L.2

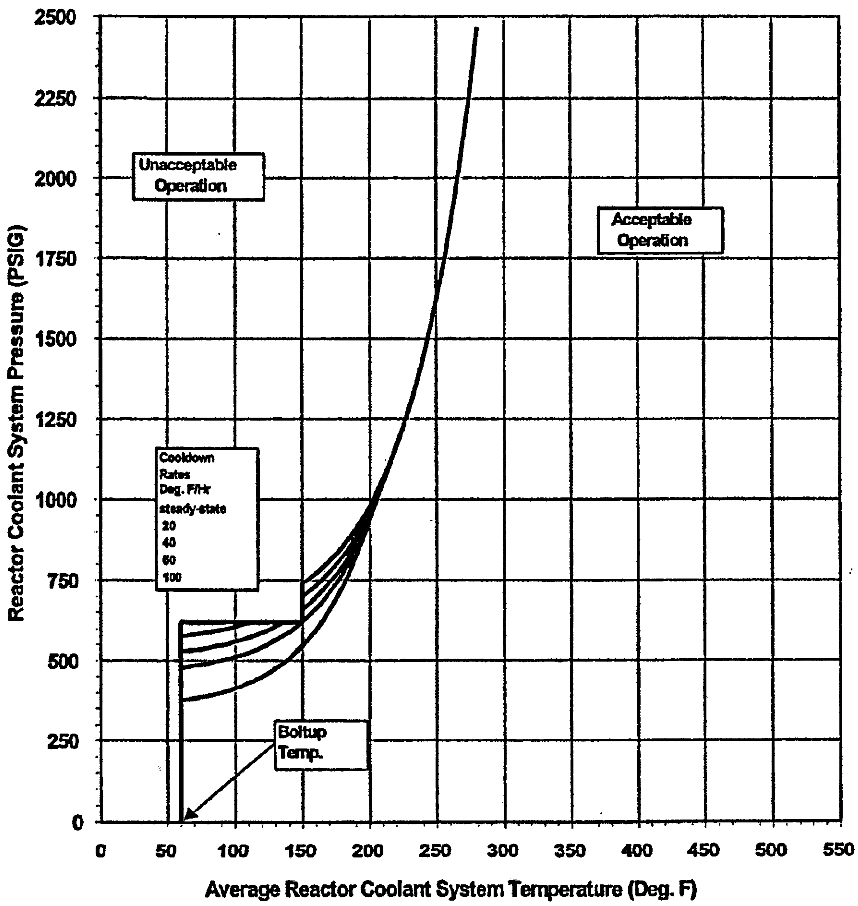


FIGURE 3.4-3
REACTOR COOLANT SYSTEM PRESSURE - TEMPERATURE, LIMITS FOR VARIOUS COOLDOWN RATES

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ITS 3.4.3

A.1

A.6

TABLE 4.4-5

REACTOR VESSEL MATERIAL IRRADIATION SURVEILLANCE SCHEDULE

SPECIMEN	REMOVAL INTERVAL
1. Capsule T	1 EFPY
2. Capsule Y	3 EFPY
~~3. Capsule X~~	5 EFPY
4. Capsule U	9 EFPY
5. Capsule S	32 EFPY
6. Capsules V, W, Z	Standby

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CTS 3/4.4.9.2

R.1

REACTOR COOLANT SYSTEM

PRESSURIZER

LIMITING CONDITION FOR OPERATION

3.4.9.2 The pressurizer temperature shall be limited to:

a. A maximum heatup of 100°F in any one hour period,

b. A maximum cooldown of 200°F in any one hour period, and

c. A maximum spray water temperature differential of 320°F.

APPLICABILITY: At all times.

ACTION:

With the pressurizer temperature limits in excess of any of the above limits, restore the temperature to within the limits within 30 minutes; perform an engineering evaluation to determine the effects of the out-of-limit condition on the fracture integrity of the pressurizer; determine that the pressurizer remains acceptable for continued operation or be in at least HOT STANDBY within the next 6 hours and reduce the pressurizer pressure to less than 500 psig within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.9.2 The pressurizer temperatures shall be determined to be within the limits at least once per 30 minutes during system heatup or cooldown. The spray water temperature differential shall be determined to be within the limit at least once per 12 hours during auxiliary spray operation.

ITS 3.4.12

A.1

ITS

REACTOR COOLANT SYSTEM

OVERPRESSURE PROTECTION SYSTEMS

LIMITING CONDITION FOR OPERATION

Add LCO 3.4.12.b accumulator isolation requirements — M.1

LCO 3.4.12.d — 3.4.9.3 At least one of the following overpressure protection systems shall be OPERABLE:

LCO 3.4.12.d.1 — a. Two power operated relief valves (PORVs) with a lift setting of less than or equal to 435 psig, or

LCO 3.4.12.d.2 — b. One power operated relief valve (PORV) with a lift setting of less than or equal to 435 psig and the RHR safety valve with a lift setting of less than or equal to 450 psig.

MODE 4 when any RCS cold leg temperature ≤ 299°F — M.2

APPLICABILITY: ~~Mode 5~~ ~~when the temperature of any RCS cold leg is less than or equal to 152°F,~~ and Mode 6 when the head is on ~~and fastened to the reactor vessel~~ and the RCS is not vented through a 2-square-inch or larger vent or through any single blocked open PORV. — M.3, LA.1

LCO 3.4.12.d.3

Add proposed LCO Note 2 — M.1

ACTION:

Add proposed ACTION E — M.2

ACTION F — a. With one of two PORVs required by item a above or either the PORV or RHR safety valve required by item b above inoperable, either (1) restore the inoperable PORV or RHR safety valve to OPERABLE status within 24 hours, or (2) complete depressurization and venting of the RCS through at least a 2-square-inch vent, ~~or through any single blocked open PORV,~~ ~~within a total of 32~~ 12 hours. ~~Maintain the RCS in a vented condition until the inoperable PORV or RHR safety valve has been restored to OPERABLE status.~~ — LA.1, L.1, A.2

ACTION G

ACTION G — b. With both PORVs and the RHR safety valve inoperable, complete depressurization and venting of the RCS through at least a 2-square-inch vent, ~~or through any single blocked open PORV,~~ within ~~8~~ 12 hours. ~~Maintain the RCS in a vented condition until both PORVs or one PORV and the RHR safety valve have been restored to OPERABLE status.~~ — LA.1, L.1, A.2

SR 3.4.12.5 — c. With the RCS vented per ACTION a or b above, verify the vent pathway at least once per 31 days when the pathway is provided by a valve(s) that is locked, sealed, or otherwise secured in the open position; otherwise, verify the vent pathway every 12 hours.

~~d. In the event either the PORVs, the RHR safety valve or the RCS vent(s) are used to mitigate a RCS pressure transient, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 30 days. The report shall describe the circumstances initiating the transient, the effect of the PORVs or vents on the transient and any corrective action necessary to prevent recurrence.~~ — L.2

~~e. The provisions of Specification 3.0.4 are not applicable.~~ — M.4

Add proposed ACTIONS C and D — M.1

ITS 3.4.12

A.1

ITS

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS

4.4.9.3.1 Each PORV shall be demonstrated OPERABLE by: Add proposed SR 3.4.12.8 Note M.4

SR 3.4.12.8 a. Performance of a CHANNEL FUNCTIONAL TEST on the PORV actuation channel, but excluding valve operation, ~~within 31 days prior to entering a condition in which the PORV is required OPERABLE~~ and at least once per 31 days thereafter when the PORV is required OPERABLE.

SR 3.4.12.9 b. Performance of a CHANNEL CALIBRATION on the PORV actuation channel at least once per ~~18~~ 24 months. L.3

SR 3.4.12.6 c. Verifying the PORV isolation valve is open at least once per 72 hours when the PORV is being used for overpressure protection.

d. Determining the emergency air tank OPERABLE by verifying:

SR 3.4.12.7 1. At least once per 31 days, air tank pressure greater than or equal to 900 psig.

~~2. Air tank pressure instrumentation OPERABLE by performance of a:~~

~~(a) CHANNEL FUNCTIONAL TEST at least once per 31 days, and~~
~~(b) CHANNEL CALIBRATION at least once per 18 months, with the low pressure alarm setpoint ≥ to 900 psig.~~ LA.2

4.4.9.3.2 The RHR safety valve shall be demonstrated OPERABLE by:

SR 3.4.12.4 a. Verifying that the RHR system suction is aligned to the RCS Loop with the valves in the flow path open at least once per 12 hours when the RHR safety valve is being used for overpressure protection.

~~b. Testing in accordance with the inservice test requirements for ASME Category C valves pursuant to Specification 4.0.5.~~ A.3

Add proposed SR 3.4.12.3 M.1

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CTS 3/4.4.10.1

R.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

3/4.4.10 STRUCTURAL INTEGRITY

ASME CODE CLASS 1, 2 and 3 COMPONENTS

LIMITING CONDITION FOR OPERATION

3.4.10.1 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.1.

APPLICABILITY: ALL MODES

ACTION:

a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.

b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.

c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

d. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.10.1 In addition to the requirements of Specification 4.0.5, each reactor coolant pump flywheel shall be inspected by either qualified in-place UT examination over the volume from the inner bore of the flywheel to the circle of one-half the outer radius or a surface examination (magnetic particle testing and/or penetrant testing) of exposed surfaces defined by the volume of the disassembled flywheels once every 10 years.

See ITS 5.5

COOK NUCLEAR PLANT-UNIT 2 Page 3/4 4-31 AMENDMENT 39, 201

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

3/4.4.10 STRUCTURAL INTEGRITY

ASME CODE CLASS 1, 2 and 3 COMPONENTS

LIMITING CONDITION FOR OPERATION

3.4.10.1 The structural integrity of ASME Code Class 1, 2 and 3 components shall be maintained in accordance with Specification 4.4.10.1.

APPLICABILITY: ALL MODES

ACTION:

a. With the structural integrity of any ASME Code Class 1 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature more than 50°F above the minimum temperature required by NDT considerations.

b. With the structural integrity of any ASME Code Class 2 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) prior to increasing the Reactor Coolant System temperature above 200°F.

c. With the structural integrity of any ASME Code Class 3 component(s) not conforming to the above requirements, restore the structural integrity of the affected component(s) to within its limit or isolate the affected component(s) from service.

d. The provisions of Specification 3.0.4 are not applicable.

See ITS 3/4.4.10.1

SURVEILLANCE REQUIREMENTS

5.5.5 4.4.10.1 ~~In addition to the requirements of Specification 4.0.5,~~ each reactor coolant pump flywheel shall be inspected by either qualified in-place UT examination over the volume from the inner bore of the flywheel to the circle of one-half the outer radius or a surface examination (magnetic particle testing and/or penetrant testing) of exposed surfaces defined by the volume of the disassembled flywheels once every 10 years.

Add proposed ITS 5.5.5 generic program statement

A.13

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Reactor Coolant Pump Flywheel Inspection Program Surveillance Frequency.

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM

RELIEF VALVES - OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.4.11 — 3.4.11 Three power operated relief valves (PORVs) and their associated block valves shall be OPERABLE. M.1

APPLICABILITY: MODES 1, 2, and 3.

ACTION: Add proposed ACTIONS Note 1 — A.2

and capable of being manually cycled

ACTION A / ACTION H — a. With one or more PORVs inoperable ~~because of excessive seat leakage~~ within 1 hour ~~either restore the PORV(s) to OPERABLE status or~~ close the associated block valve(s) with power maintained to the block valve(s); otherwise, be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

A.2 — and not capable of being manually cycled

ACTION B / ACTION H — b. With one PORV inoperable ~~due to causes other than excessive seat leakage~~ within 1 hour ~~either restore the PORV to OPERABLE status or~~ close the associated block valve and remove power from the block valve; otherwise be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3

A.2 — and not capable of being manually cycled

ACTION D / Required Actions B.1 and B.2 / Required Action D.1 / ACTION H — c. With two PORVs inoperable ~~due to causes other than excessive seat leakage~~ within 1 hour ~~either restore the PORVs to OPERABLE status or~~ close the associated block valves and remove power from the block valves; restore at least one of the inoperable PORVs to OPERABLE status within the following 72 hours or be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 M.1

A.2 — and not capable of being manually cycled

ACTION H / Required Actions B.1 and B.2 / ACTION H — d. With three PORVs inoperable ~~due to causes other than excessive seat leakage~~ within 1 hour ~~either restore at least one PORV to OPERABLE status or close the block valves and remove power from the block valves and be in HOT STANDBY within the next~~ 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 M.1

A.4 — Add Required Action C.1 Note

ACTION C / ACTION H — e. With one block valve inoperable, within 1 hour ~~either restore the block valve to OPERABLE status, or~~ place its associated PORV in manual control, ~~or close the block valve and remove power from the block valve;~~ otherwise be in at least HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 M.2

A.4 — Add Required Action E.1 and F.1 Note

ACTIONS E and G / Required Action C.1 / Required Action C.1 / Required Action G.1 / Required Action E.1 / ACTION H — f. With two or three block valves inoperable, within 1 hour apply the provisions of ACTION e above to one of the block valves and, for the remaining inoperable block valve(s), ~~either restore the block valve(s) to OPERABLE status, or~~ place the associated PORV(s) in manual control; restore at least one block valve to OPERABLE status within the next hour; restore at least two block valves to OPERABLE status within the following 72 hours; otherwise be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours. A.3 M.1

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ITS 3.4.11

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

REACTOR COOLANT SYSTEM

LIMITING CONDITION FOR OPERATION (Continued)

and not capable of being manually cycled — A.2

ACTIONS F and H; Required Actions B.1 and B.2; Required Action C.1; ACTIONS F and H

g. With PORVs and block valves not in the same line inoperable ~~due to causes other than excessive seat leakage~~, within 1 hour ~~restore the valves to OPERABLE status or~~ close and de-energize the associated block valve ~~and~~ place the associated PORV in manual control in each respective line. Apply the portions of ACTION c or d above, relating to the OPERATIONAL MODE, as appropriate for two or three lines unavailable. — A.3, L.1

ACTIONS Note 2

h. The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.4.11.1 ~~In addition to the requirements of Specification 4.0.5,~~ each PORV shall be demonstrated OPERABLE: — A.5

~~a. At least once per 31 days by performance of a CHANNEL FUNCTIONAL TEST, excluding valve operation, and~~ — L.2

SR 3.4.11.2 b. At least once per ~~18~~ 24 months by operating the PORV through one complete cycle of full travel during MODES 3 or 4, and — L.3

SR 3.4.11.3 c. At least once per ~~18~~ 24 months by operating solenoid air control valves and check valves in PORV control systems through one complete cycle of full travel, and — L.3

~~d. At least once per 18 months by performing a CHANNEL CALIBRATION of the actuation instrumentation.~~ — L.2

SR 3.4.11.1 4.4.11.2 Each block valve shall be demonstrated OPERABLE at least once per 92 days by operating the valve through one complete cycle of full travel unless the block valve is closed in order to meet the requirements of ACTION b, c, or d in Specification 3.4.11. — L.4

4.4.11.3 Deleted.

R.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

LIMITING CONDITIONS FOR OPERATION

3.4.12.1 At least one of the Reactor Vessel head vent paths, consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

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

ACTION:

a. With both of the Reactor Vessel head vent paths inoperable, and at least one of the Pressurizer steam space vent paths OPERABLE (see Specification 3.4.12.2), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Reactor Vessel head vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With both of the Reactor Vessel head vent paths and both of the Pressurizer steam space vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. The provisions of Specification 3.0.4 are not applicable.

CTS 3/4.4.12.1

R.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.4 REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

REACTOR VESSEL HEAD VENTS

SURVEILLANCE REQUIREMENTS

4.4.12.1 Both Reactor Vessel head vent paths shall be demonstrated OPERABLE at least once per 18 months by:

1. Verifying the common manual isolation valve in the Reactor vessel head vent is sealed in the open position.

2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.

3. Verifying flow through both of the Reactor Vessel head vent paths during venting operation, while in Modes 5 or 6.

CTS 3/4.4.12.2

R.1

REACTOR COOLANT SYSTEM

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

LIMITING CONDITION FOR OPERATION

3.4.12.2 At least one of the Pressurizer steam space vent paths, each consisting of two remotely operated valves in series, powered from Class 1E DC busses, shall be OPERABLE and closed.

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

ACTION:

a. With both of the Pressurizer steam space vent paths inoperable, and at least one of the Reactor Vessel head vent paths OPERABLE (see Specification 3.4.12.1), operation in MODES 1, 2, 3 or 4 may continue, provided the inoperable vent paths are maintained closed with the power removed from the valve actuators of all the remotely operated valves in all of the inoperable vent paths; restore at least one of the Pressurizer steam space vent paths within 30 days or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN in the following 30 hours.

b. With both of the Pressurizer steam space vent paths and both of the Reactor Vessel head vent paths inoperable; maintain the inoperable vent paths closed with power removed from the valve actuators of all of the remotely operated valves in all of the inoperable vent paths; restore one of the inoperable vent paths from either the Reactor Vessel head vent or the Pressurizer steam space within 72 hours or be in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. The provisions of Specification 3.0.4 are not applicable.

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R.1

REACTOR COOLANT VENT SYSTEM

PRESSURIZER STEAM SPACE VENTS

SURVEILLANCE REQUIREMENTS

4.4.12.2 Both Pressurizer steam space vent paths shall be demonstrated OPERABLE at least once per 18 months by:

1. Verifying the common manual isolation valve in the Pressurizer steam space vent is sealed in the open position.
2. Cycling each of the remotely operated valves in each path through at least one complete cycle of full travel from the Control Room while in Modes 5 or 6.
3. Verifying flow through both of the Pressurizer steam space vent paths during venting operation, while in Modes 5 or 6.

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ITS 3.5.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

ACCUMULATORS

LIMITING CONDITION FOR OPERATION

A.2

LCO 3.5.1 — 3.5.1 ~~Each~~ Four reactor coolant system accumulator shall be OPERABLE with:

SR 3.5.1.1 — a. The isolation valve open,

SR 3.5.1.2 — b. A contained borated water volume of between 921 and 971 cubic feet,

SR 3.5.1.4 — c. A boron concentration between 2400 ppm and 2600 ppm, and

SR 3.5.1.3 — d. A nitrogen cover-pressure of between 585 and 658 psig.

APPLICABILITY: MODES 1, 2 and 3.*

ACTION:

ACTION A / ACTION C — a. With one accumulator inoperable due to boron concentration not within limits, restore boron concentration to within limits within 72 hours or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.

L.1

ACTION B / ACTION C — b. With one accumulator inoperable for reasons other than boron concentration not within limits, restore the accumulator to OPERABLE status within ~~1 hour~~ 24 hours, or be in at least Mode 3 within the next 6 hours and reduce reactor coolant system pressure to less than or equal to 1000 psig within the following 6 hours.

Add proposed ACTION D

A.3

SURVEILLANCE REQUIREMENTS

4.5.1 Each accumulator shall be demonstrated OPERABLE:

a. At least once per 12 hours by:

SR 3.5.1.2 SR 3.5.1.3 — 1. Verifying the contained borated water volume and nitrogen cover-pressure in the tanks, and

SR 3.5.1.1 — 2. Verifying that each accumulator isolation valve is open.

Applicability — *Reactor Coolant System Pressure above 1000 psig.

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.5.1.4 b. At least once per 31 days and, for the affected accumulator(s), within 6 hours after each solution volume increase greater than or equal to ~~1% of tank volume~~ 13 ft^3 (that is not the result of addition from the refueling water storage tank) by verifying the boron concentration of the accumulator solution. A.4

SR 3.5.1.5 c. At least once per 31 days when the RCS pressure is above 2000 psig by verifying that power is removed from each accumulator isolation valve operator.

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ITS 3.5.2

A.1

ITS

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - $T_{avg} \geq 350°F$

LIMITING CONDITION FOR OPERATION

LCO 3.5.2 — 3.5.2 Two ~~independent~~ ECCS subsystems shall be OPERABLE ~~with each subsystem comprised of:~~

~~a. One OPERABLE centrifugal charging pump,~~

~~b. One OPERABLE safety injection pump,~~

~~c. One OPERABLE residual heat removal heat exchanger,~~

~~d. One OPERABLE residual heat removal pump,~~

~~e. An OPERABLE flow path capable of taking suction from the refueling water storage tank on a safety injection signal and transferring suction to the containment sump during the recirculation phase of operation.~~

~~f. All safety injection cross-tie valves open.~~

LA.1

APPLICABILITY: MODES 1, 2, and 3.

ACTION:

L.1 — or more

M.1

ACTION A

ACTION B

a. With one ECCS subsystem inoperable, restore the inoperable subsystem to OPERABLE status within 72 hours or be in HOT SHUTDOWN within the next 12 hours. Add proposed Required Action B.1

A.2

ACTION D

b. With a safety injection cross-tie valve closed, ~~restore the cross-tie valve to the open position or~~ reduce the core power level to less than or equal to 3304 MW within one hour. ~~Specification 3.0.4 does not apply.~~

A.3

~~c. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.~~

L.2

Add proposed ACTION C — L.1

ITS 3.5.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SURVEILLANCE REQUIREMENTS

SR 3.5.2.1 4.5.2 Each ECCS subsystem shall be demonstrated OPERABLE:

a. At least once per 12 hours by verifying that the following valves are in the indicated positions with power to the valve operators removed:

Valve Number	Valve Function	Valve Position
a. IMO-390	a. RWST to RHR	a. Open
b. IMO-315	b. Low head SI to Hot Leg	b. Closed
c. IMO-325	c. Low head SI to Hot Leg	c. Closed
d. IMO-262*	d. Mini flow line	d. Open
e. IMO-263*	e. Mini flow line	e. Open
f. IMO-261*	f. SI Suction	f. Open
g. ICM-305*	g. Sump Line	g. Closed
h. ICM-306*	h. Sump Line	h. Closed

LA.2

SR 3.5.2.2 b. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

c. ~~By a visual inspection which verifies that no loose debris (rags, trash, clothing, etc.) is present in the containment which could be transported to the containment sump and cause restriction of the pump suctions during LOCA conditions. This visual inspection shall be performed:~~

~~1. For all accessible areas of the containment prior to establishing CONTAINMENT INTEGRITY, and~~

~~2. Of the areas affected within containment at the completion of each containment entry when CONTAINMENT INTEGRITY is established.~~

LA.3

* ~~These valves must change position during the switchover from injection to recirculation flow following LOCA.~~

LA.2

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ITS 3.4.14

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

Add proposed LCO 3.4.14 part 2 — A.6

24 months — L.4

SR 3.4.14.2

d. At least once per ~~18~~ months by:

1. Verifying the automatic interlock action to prevent opening of the suction of the RHR system from the Reactor Coolant System when the Reactor Coolant System pressure is above 600 psig.

2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion.

e. At least once per 18 months by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on a Safety Injection test signal.

2. Verifying that each of the following pumps start automatically upon receipt of a Safety Injection signal:

a) Centrifugal charging pump

b) Safety injection pump

See ITS 3.5.2

Add proposed ACTION C — L.5

ITS 3.5.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

d. At least once per 18 months by: 24 L.3

1. Verifying the automatic interlock action to prevent opening of the suction of the RHR system from the Reactor Coolant System when the Reactor Coolant System pressure is above 600 psig. See ITS 3.4.14

SR 3.5.2.7 2. A visual inspection of the containment sump and verifying that the subsystem suction inlets are not restricted by debris and that the sump components (trash racks, screens, etc.) show no evidence of structural distress or corrosion. L.3

e. At least once per 18 months by: 24 that is not locked, sealed, or otherwise secured in position L.4

SR 3.5.2.4 1. Verifying that each automatic valve in the flow path actuates to its correct position on a actual or ~~Safety Injection~~ actuation test signal. L.6 LA.4

SR 3.5.2.5 2. Verifying that each of the ~~following~~ ECCS pumps start automatically upon receipt of a actual or test ~~Safety Injection~~ actuation signal: L.6 LA.1 LA.4

~~a)~~	~~Centrifugal charging pump~~
~~b)~~	~~Safety injection pump~~
~~c)~~	~~Residual heat removal pump~~

LA.1

SR 3.5.2.3 f. By verifying that each of the ~~following~~ ECCS pumps' developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5. LA.1

~~1.~~	~~Centrifugal charging pumps~~
~~2.~~	~~Safety Injection pumps~~
~~3.~~	~~Residual heat removal pumps~~

LA.1

SR 3.5.2.6 g. By verifying the correct position of each mechanical stop for the following Emergency Core Cooling System throttle valves:

~~1. Within 4 hours following completion of each valve stroking operation or maintenance on the valve when the ECCS subsystems are required to be OPERABLE.~~ L.5

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ITS 3.5.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SURVEILLANCE REQUIREMENTS (Continued)

L.3

SR 3.5.2.6 2. At least once per ~~18~~ 24 months.

LA.5

Boron Injection Throttle Valves	Safety Injection Throttle Valves
Valve Number	Valve Number
1. 2-SI-141 L1	1. 2-SI-121 N
2. 2-SI-141 L2	2. 2-SI-121 S
3. 2-SI-141 L3	
4. 2-SI-141 L4	

L.5

h. By performing a flow balance test during shutdown following completion of modifications to the ECCS subsystem that alter the subsystem flow characteristics and verifying the following flow rates:

Boron Injection System Single Pump*	Safety Injection System Single Pump**
Loop 1 Boron Injection Flow 117.5 gpm	Loop 1 and 4 Cold Leg Flow greater than or equal to 300 gpm
Loop 2 Boron Injection Flow 117.5 gpm	Loop 2 and 3 Cold Leg Flow greater than or equal to 300 gpm
Loop 3 Boron Injection Flow 117.5 gpm	**Combined Loop 1,2,3 and 4 Cold Leg Flow (single pump) less than or equal to 640 gpm. Total SIS (single pump) flow, including miniflow, shall not exceed 675 gpm unless the pump is specifically qualified to a higher flow up to a maximum of 700 gpm.
Loop 4 Boron Injection Flow 117.5 gpm	

* The flow rate in each boron injection (BI) line should be adjusted to provide 117.5 gpm (nominal) flow into each loop. Under these conditions there is zero mini-flow and 80 gpm plus or minus 5 gpm simulated RCP seal injection line flow. The actual flow in each BI line may deviate from the nominal so long as:

a) the difference between the highest and lowest flow is 25 gpm or less.

b) the total flow to the four branch lines does not exceed 470 gpm.

c) the minimum flow through the three most conservative (lowest flow) branch lines must not be less than 300 gpm,

d) the charging pump discharge resistance (2.31*Pd/Qd^2) must not be less than 4.73E-3 ft/gpm^2 and must not be greater than 9.27E-3 ft/gpm^2. (Pd is the pump discharge pressure at runout; Qd is the total pump flow rate).

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ITS 3.4.12

A.1

ITS

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE:

a. One OPERABLE centrifugal charging pump,#

b. One OPERABLE residual heat removal heat exchanger,

c. One OPERABLE residual heat removal pump, and

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

See ITS 3.5.3

APPLICABILITY: MODE 4. — M.6

ACTION:

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 hours.

b. With no ECCS subsystem OPERABLE because of the inoperability of either the residual heat removal heat exchanger or residual heat removal pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods.

See ITS 3.5.3

ACTION A, ACTION B Applicability

c. With more than one charging pump OPERABLE or with a safety injection pump(s) OPERABLE when the temperature of any RCS cold leg is less than or equal to ~~152°F~~ 299, remove the additional charging pump(s) and the safety injection pump(s) ~~motor circuit breakers from the electrical power circuit~~ ~~within 1 hour~~ immediately

M.6 LA.3 M.7

d. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date.

See ITS 3.5.3

LCO 3.4.12.a Applicability

#A maximum of one centrifugal charging pump shall be OPERABLE and both safety injection pumps shall be inoperable whenever the temperature of one or more of the RCS cold legs is less than or equal to ~~152°F~~ 299.

M.6

Add proposed LCO 3.4.12 Note 1 — L.4

D. C. COOK - UNIT 2 3/4 5-7 Amendment No. 39

Add proposed LCO 3.4.12 Note 3 — M.6

ITS 3.5.3

A.1

ITS

EMERGENCY CORE COOLING SYSTEMS

ECCS SUBSYSTEMS - T_{avg} < 350°F

LIMITING CONDITION FOR OPERATION

LCO 3.5.3

3.5.3 As a minimum, one ECCS subsystem comprised of the following shall be OPERABLE: — See ITS 3.4.12

a. One OPERABLE centrifugal charging pump,#

b. One OPERABLE residual heat removal heat exchanger,

c. One OPERABLE residual heat removal pump, and — LA.1

d. An OPERABLE flow path capable of taking suction from the refueling water storage tank upon being manually realigned and transferring suction to the containment sump during the recirculation phase of operation.

APPLICABILITY: MODE 4.

ACTION:

centrifugal charging — LA.1

ACTION B
ACTION C

a. With no ECCS subsystem OPERABLE because of the inoperability of either the centrifugal charging pump or the flow path from the refueling water storage tank, restore at least one ECCS subsystem to OPERABLE status within 1 hour or be in COLD SHUTDOWN within the next 20 24 hours. — L.1

ACTION A

RHR — LA.1

b. With no ECCS subsystem OPERABLE because of the inoperability of either the residual heat removal heat exchanger or residual heat removal pump, restore at least one ECCS subsystem to OPERABLE status or maintain the Reactor Coolant System T_{avg} less than 350°F by use of alternate heat removal methods. — M.1

c. With more than one charging pump OPERABLE or with a safety injection pump(s) OPERABLE when the temperature of any RCS cold leg is less than or equal to 152°F, remove the additional charging pump(s) and the safety injection pump(s) motor circuit breakers from the electrical power circuit within 1 hour. — See ITS 3.4.12

d. In the event the ECCS is actuated and injects water into the Reactor Coolant System, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. — L.2

#A maximum of one centrifugal charging pump shall be OPERABLE and both safety injection pumps shall be inoperable whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F. — See ITS 3.4.12

ITS 3.4.12

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SURVEILLANCE REQUIREMENTS

4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2. See ITS 3.5.3

SR 3.4.12.1, SR 3.4.12.2

4.5.3.2 All charging pumps and safety injection pumps, except the above required OPERABLE charging pump, shall be demonstrated inoperable, by verifying that the motor circuit breakers have been removed from their electrical power supply circuits, at least once per 12 hours whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F as determined at least once per hour when any RCS cold leg temperature is between 152°F and 200°F.

not capable of injecting into the RCS

LA.3

L.5

299

A.2

Applicability

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

SR 3.5.2.2 (as modified by the Note), SR 3.5.2.3, SR 3.5.2.6, and SR 3.5.2.7

A.2

SURVEILLANCE REQUIREMENTS

SR 3.5.3.1 — 4.5.3.1 The ECCS subsystem shall be demonstrated OPERABLE per the applicable Surveillance Requirements of 4.5.2.

4.5.3.2 All charging pumps and safety injection pumps, except the above required OPERABLE charging pump, shall be demonstrated inoperable, by verifying that the motor circuit breakers have been removed from their electrical power supply circuits, at least once per 12 hours whenever the temperature of one or more of the RCS cold legs is less than or equal to 152°F as determined at least once per hour when any RCS cold leg temperature is between 152°F and 200°F.

See ITS 3.4.12

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ITS 3.5.4

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.5 EMERGENCY CORE COOLING SYSTEMS (ECCS)

3/4.5.5 REFUELING WATER STORAGE TANK

LIMITING CONDITION FOR OPERATION

LCO 3.5.4 — 3.5.5 The refueling water storage tank (RWST) shall be OPERABLE with:

SR 3.5.4.2 — a. A minimum contained volume of 375,500 gallons of borated water.

SR 3.5.4.3 — b. Between 2400 and 2600 ppm of boron, and

SR 3.5.4.1 — c. A minimum water temperature of 70°F and a maximum water temperature of 100°F.

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTION A

L.1

ACTION:

for reasons other than concentration or temperature not within limits

ACTION B — With the refueling water storage tank inoperable, restore the tank to OPERABLE status within 1 hour or be in at
ACTION C — least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.5.5 The RWST shall be demonstrated OPERABLE:

a. At least once per 7 days by:

SR 3.5.4.2 — 1. Verifying the contained borated water level in the tank, and

SR 3.5.4.3 — 2. Verifying the boron concentration of the water.

SR 3.5.4.1 — b. At least once per 24 hours by verifying the RWST temperature.

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ITS 3.6.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT ~~INTEGRITY~~ OPERABILITY

LIMITING CONDITION FOR OPERATION

LCO 3.6.1 — 3.6.1.1 Primary ~~CONTAINMENT~~ ~~INTEGRITY~~ OPERABILITY shall be maintained. A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — Without primary ~~CONTAINMENT~~ ~~INTEGRITY~~ OPERABILITY, restore ~~CONTAINMENT~~ ~~INTEGRITY~~ OPERABILITY within one hour or be

ACTION B — in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. A.2

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary ~~CONTAINMENT~~ ~~INTEGRITY~~ OPERABILITY shall be demonstrated: A.2

a. ~~At least once per 31 days by verifying that:~~ L.1

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1, and — See ITS 3.6.3

2. ~~All equipment hatches are closed and sealed.~~ L.1 L.2

b. ~~By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.~~ A.3

*Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days. — See ITS 3.6.3

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ITS 3.6.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

3/4.6.1 PRIMARY CONTAINMENT

CONTAINMENT INTEGRITY

LIMITING CONDITION FOR OPERATION

3.6.1.1 Primary CONTAINMENT INTEGRITY shall be maintained.

APPLICABILITY: MODES 1, 2, 3 and 4.

See ITS 3.6.1

ACTION:

Add proposed ACTIONS Notes 2, 3, and 4 and ACTIONS A, B, and C — L.8

ACTION D — ~~Without primary CONTAINMENT INTEGRITY, restore CONTAINMENT INTEGRITY within one hour~~ or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.1.1 Primary CONTAINMENT INTEGRITY shall be demonstrated:

See ITS 3.6.1

Add proposed Required Actions A.2 and C.2 Notes 1 and 2 and SRs 3.6.3.2 and 3.6.3.3 Note — L.9

Required Actions A.2 and C.2, SR 3.6.3.2, SR 3.6.3.3

a. At least once per 31 days by verifying that:

1. All penetrations* not capable of being closed by OPERABLE containment automatic isolation valves and not locked, sealed, or secured and required to be closed during accident conditions are closed by valves, blind flanges, or deactivated automatic valves secured in their positions, except for valves that are open under administrative control as permitted by Specification 3.6.3.1, and or check valves with flow secured

L.10

L.3

ACTIONS Note 1, SR 3.6.3.2, SR 3.6.3.3

2. All equipment hatches are closed and sealed.

b. By verifying that each containment air lock is in compliance with the requirements of Specification 3.6.1.3.

See ITS 3.6.1

not — L.10

SR 3.6.3.3 — *Except valves, blind flanges, and deactivated automatic valves which are located inside the containment and are not locked, sealed or otherwise secured in the closed position. These penetrations shall be verified closed during each COLD SHUTDOWN except that such verification need not be performed more often than once per 92 days.

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ITS 3.6.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

LCO 3.6.1 3.6.1.2 Containment leakage rates shall be limited to: A.2

a. An overall integrated leakage rate of $\leq L_a$, 0.25 percent by weight of the containment air per 24 hours at P_a, 12 psig, and

b. A combined leakage rate of $\leq 0.60\ L_a$ for all penetrations and valves subject to Types B and C tests when pressurized to P_a.

See ITS 5.5

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTIONS A and B A.4

ACTION:

~~With either (a) the measured overall integrated containment leakage rate exceeding 0.75 L_a, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding 0.60 L_a, restore the overall integrated leakage rate to $\leq 0.75\ L_a$ and the combined leakage rate for all penetrations and valves subject to Types B and C tests to $\leq 0.60\ L_a$ prior to increasing the Reactor Coolant System temperature above 200°F.~~

SURVEILLANCE REQUIREMENTS

the Containment Leakage Rate Testing Program A.5

SR 3.6.1.1 4.6.1.2 Perform leakage rate testing in accordance with 10 CFR 50 Appendix J Option B, except as modified by NRC-approved exemptions, and Regulatory Guide 1.163, dated September 1995. See Note 1.

See ITS 5.5

a. Each containment air lock shall be verified to be in compliance with the requirements of Specification 3.6.1.3.

A.5

b. The provisions of Specification 4.0.2 are not applicable.

See ITS 5.5

A.5

Notes:

1 The Type A testing frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "...at least once per 10 years based on acceptable performance history" is modified to be "...at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in May 1992.

See ITS 5.5

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

See ITS 3.6.1

CONTAINMENT LEAKAGE

LIMITING CONDITION FOR OPERATION

Add proposed ITS 5.5.14 and 5.5.14.a

3.6.1.2 Containment leakage rates shall be limited to:

A.7

5.5.14.b, 5.5.14.c, 5.5.14.d.1 a. An overall integrated leakage rate of $\leq L_a$, 0.25 percent by weight of the containment air per 24 hours at P_a, 12 psig, and

5.5.14.d.1 b. A combined leakage rate of $\leq 0.60\ L_a$ for all penetrations and valves subject to Types B and C tests when pressurized to P_a. L.2

APPLICABILITY: MODES 1, 2, 3 and 4.

See ITS 3.6.1

ACTION:

5.5.14.d.1 With either (a) the measured overall integrated containment leakage rate exceeding $0.75\ L_a$, or (b) with the measured combined leakage rate for all penetrations and valves subject to Types B and C tests exceeding $0.60\ L_a$, restore the overall integrated leakage rate to $\leq 0.75\ L_a$ and the combined leakage rate for all penetrations and valves subject to Types B and C tests to $\leq 0.60\ L_a$ ~~prior to increasing the Reactor Coolant System temperature above 200°F.~~ L.2

SURVEILLANCE REQUIREMENTS

5.5.14.a 4.6.1.2 Perform leakage rate testing in accordance with 10 CFR 50 Appendix J Option B, except as modified by NRC-approved exemptions, and Regulatory Guide 1.163, dated September 1995. See Note 1.

a. Each containment air lock shall be verified to be in compliance with the requirements of Specification 3.6.1.3. See ITS 3.6.1

~~b. The provisions of Specification 4.0.2 are not applicable.~~ A.7

Add proposed ITS 5.5.14.e A.7

Notes:

5.5.14.a.1 1 The Type A testing frequency specified in NEI 94-01, Revision 0, Paragraph 9.2.3, as "...at least once per 10 years based on acceptable performance history" is modified to be "...at least once per 15 years based on acceptable performance history." This change applies only to the interval following the Type A test performed in May 1992.

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ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

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ITS 3.6.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

LIMITING CONDITION FOR OPERATION

LCO 3.6.2 3.6.1.3 Each containment air lock shall be OPERABLE ~~with:~~

a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and — LA.1

b. An overall air lock leakage rate of ≤ 0.05 L_a at P_a, 12.0 psig. — See ITS 5.5

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTIONS Note 1 — L.1
Add proposed ACTIONS Note 2 — A.2
Add proposed ACTIONS Note 3 — A.3

ACTION: Add proposed ACTIONS A and B

ACTION C With an air lock inoperable, maintain at least one door closed; restore the air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following — L.1

ACTION D 30 hours.

Add proposed Required ACTIONS C.1 and C.2 — M.1

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

SR 3.6.2.1 a. In accordance with 10 CFR 50 Appendix J Option B and Regulatory Guide 1.163, dated September 1995, and — See ITS 5.5

the Containment Leakage Rate Testing Program — A.4

SR 3.6.2.2 b. At least once per 6 months by verifying that only one door in each air lock can be opened at a time.

24 — L.2

Add proposed SR 3.6.2.1 Note 1 — A.5

Add proposed SR 3.6.2.1 Note 2 — A.6

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT AIR LOCKS

See ITS 3.6.2

LIMITING CONDITION FOR OPERATION

3.6.1.3 Each containment air lock shall be OPERABLE with:

a. Both doors closed except when the air lock is being used for normal transit entry and exit through the containment, then at least one air lock door shall be closed, and

5.5.14.d.2.a), 5.5.14.b b. An overall air lock leakage rate of $\leq$ 0.05 L_a at P_a, 12.0 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With an air lock inoperable, maintain at least one door closed; restore the air lock to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. See ITS 3.6.2

SURVEILLANCE REQUIREMENTS

4.6.1.3 Each containment air lock shall be demonstrated OPERABLE:

5.5.14.a a. In accordance with 10 CFR 50 Appendix J Option B and Regulatory Guide 1.163, dated September 1995, and

b. At least once per 6 months by verifying that only one door in each air lock can be opened at a time. See ITS 3.6.2

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A.1

ITS

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ITS 3.6.4

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

INTERNAL PRESSURE

LIMITING CONDITION FOR OPERATION

LCO 3.6.4 3.6.1.4 Primary containment internal pressure shall be maintained between -1.5 and +0.3 psig.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A
ACTION B

With the containment internal pressure outside of the limits above, restore the internal pressure to within the limits within 1 hour or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.4.1 4.6.1.4 The primary containment internal pressure shall be determined to within the limits at least once per 12 hours.

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A.1

ITS

CONTAINMENT SYSTEMS

AIR TEMPERATURE

LIMITING CONDITION FOR OPERATION

LCO 3.6.5

3.6.1.5 Primary containment average air temperature shall be maintained:

a. between 60 and 100°F in the containment upper compartment, and

b. between 60 and 120°F in the containment lower compartment.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With the containment average air temperature not conforming to the above limits, restore the air temperature to within the limits within 8 hours

ACTION B — or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.5.1

4.6.1.5.1 The primary containment upper compartment average air temperature shall be the arithmetical average of the temperatures at the following locations:

Location

a. UV - Nominal Elev. 712' 0"

b. UV - Nominal Elev. 712' 0"

c. UV - Nominal Elev. 624' 10"

within limits

LA.1

SR 3.6.5.2

4.6.1.5.2 The primary containment lower compartment average air temperature shall be the arithmetical average of the temperatures at the following locations:

D. C. COOK - UNIT 2 3/4 6-7

ITS 3.6.5

A.1

ITS

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.6.5.2

Location	LA.1
~~a. LV - Nominal Elev. 624' 10 1/2"~~	
~~b. LV - Nominal Elev. 624' 0"~~	
~~c. LV - Nominal Elev. 626' 6"~~	

SR 3.6.5.1, SR 3.6.5.2

4.6.1.5.3 The primary containment average air temperatures shall be determined at least once per 24 hours.

ITS 3.6.1

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT STRUCTURAL INTEGRITY

LIMITING CONDITION FOR OPERATION

LCO 3.6.1 3.6.1.6 The structural integrity of the containment shall be maintained at a level consistent with the acceptance criteria in Specification 4.6.1.6. A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTIONS A and B A.4

ACTION:

~~With the structural integrity of the containment not conforming to the above requirements, restore the structural integrity to within the limits prior to increasing the Reactor Coolant System temperature above 200°F.~~

SURVEILLANCE REQUIREMENTS

SR 3.6.1.1 4.6.1.6 The structural integrity of the containment structure and steel liner shall be determined in accordance with ~~10 CFR 50 Appendix J Option B and Regulatory Guide 1.163, dated September 1995.~~

the Containment Leakage Rate Testing Program A.5

ITS 3.6.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.3, SR 3.6.3.1 — 3.6.1.7 The containment purge supply and exhaust system shall be closed except when operation of the containment purge system is required for pressure control, ALARA, and respirable air quality considerations for personnel entry, and for surveillance testing and maintenance activities. No more than one purge supply path and one purge exhaust path shall be open at a time. A.2

SR 3.6.3.1

Add proposed ACTIONS Note 2 L.11

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

ACTION:

Add proposed ACTIONS Note 4 A.5

ACTION A

a. With one containment purge supply and/or one exhaust isolation valve inoperable, isolate the affected penetration by use of at least one automatic valve secured in the closed position, and, within ~~72~~ 4 hours, either: M.2

1) ~~Restore the inoperable valve to OPERABLE status~~, or, A.6

2) Deactivate the automatic valve secured in the closed position.

b. ~~Operation may then continue until performance of the next required valve test~~ provided that the automatic valve secured in the closed position is verified to be deactivated in the closed position at least once per 31 days. L.12

Add proposed ACTION B L.11

ACTION D

c. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

~~d. The provisions of Specification 3.0.4 are not applicable.~~ A.7

SURVEILLANCE REQUIREMENTS

~~4.6.1.7.1 The surveillance requirements of Technical Specifications 3/4.6.1.2 and 3/4.6.3.1 apply.~~ A.9

Add proposed SR 3.6.3.1 M.3

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ITS 3.6.6

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

3/4.6.2 DEPRESSURIZATION AND COOLING SYSTEMS

CONTAINMENT SPRAY SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.6 3.6.2.1 Two ~~independent~~ containment spray systems shall be OPERABLE ~~with each spray system capable of taking suction from the RWST and transferring suction to the containment sump.~~ LA.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A: With one containment spray system inoperable, restore the inoperable spray system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours; ~~restore the inoperable spray system to OPERABLE status~~ A.2

ACTION B: within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.2.1 Each containment spray system shall be demonstrated OPERABLE:

SR 3.6.6.1 a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position. A.3

SR 3.6.6.2 b. By verifying that each containment spray pump's developed head at the test flow point is greater than or equal to the required developed head when tested pursuant to Specification 4.0.5. L.1

Add proposed Note to SR 3.6.6.3

c. At least once per ~~18~~ 24 months by: L.2

1. Verifying that each automatic valve in the flow path not locked, sealed, or otherwise secured in position actuates to its correct position on a actual or ~~Containment Pressure – High-High~~ test signal. LA.2 L.3

Add proposed Note to SR 3.6.6.4

SR 3.6.6.4 2. Verifying that each spray pump starts automatically on a actual or ~~Containment Pressure – High-High~~ test signal. LA.2 L.3

SR 3.6.6.3 (item c.1)

SR 3.6.6.5 d. At least once per 10 years ~~by performing an air or smoke flow test through each spray header and~~ verifying each spray nozzle is unobstructed. LA.3

A.3

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A.1

ITS

CONTAINMENT SYSTEMS

SPRAY ADDITIVE SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.7 — 3.6.2.2 The spray additive system shall be OPERABLE with:

SR 3.6.7.2, SR 3.6.7.3 — a. A spray additive tank containing a volume between 4000 and 4600 gallons of between 30 and 34 percent by weight NaOH solution, and

b. ~~Two spray additive eductors each capable of adding NaOH solution from the chemical additive tank to a containment spray system pump flow.~~ — LA.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With the spray additive system inoperable, restore the system to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours;

ACTION B — ~~restore the spray additive system to OPERABLE status~~ within the next 48 hours or be in COLD SHUTDOWN within the following 30 hours. — A.2

SURVEILLANCE REQUIREMENTS

4.6.2.2 The spray additive system shall be demonstrated OPERABLE:

SR 3.6.7.1 — a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 6 months by:

SR 3.6.7.2 — 1. Verifying the contained solution volume in the tank, and

SR 3.6.7.3 — 2. Verifying the concentration of the NaOH solution ~~by chemical analysis~~. — LA.2

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ITS 3.6.7

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

24 — L.1

not locked, sealed, or otherwise secured in position — L.2

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.6.7.4 c. At least once per ~~18~~ 24 months by verifying that each automatic valve in the flow path not locked, sealed, or otherwise secured in position actuates to its correct position on a actual or ~~Containment Pressure—High-High~~ test signal. LA.3 L.3

SR 3.6.7.5 d. At least once per 5 years by verifying the flow rate from the spray additive tank ~~test line to each containment spray system with the spray pump operating on recirculation.~~ LA.4

ITS 3.6.3

A.1

ITS

CONTAINMENT SYSTEMS

3/4.6.3 CONTAINMENT ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.6.3 — 3.6.3.1 Each containment isolation valve shall be OPERABLE. Containment purge valves and locked or sealed closed valves may be opened on an intermittent basis under administrative control. The ACTION statement of Technical Specification 3/4.6.3.1 is not applicable to the containment purge and exhaust isolation valves. The Limiting Condition for Operation and its associated ACTION statement for these valves are given in Technical Specification 3/4.6.1.7. (L.1) (A.2)

SR 3.6.3.2 and ACTIONS Note 1

APPLICABILITY: MODES 1,2,3 and 4.

Add proposed ACTIONS Note 2 (A.3)

Add proposed ACTIONS Note 3 (A.4)

Add proposed ACTIONS Note 4 (A.5)

ACTION:

ACTIONS A and C

With one or more of the containment isolation valve(s) inoperable, maintain at least one isolation valve OPERABLE in each affected penetration that is open and either: (A.10) (L.2)

a. Restore the inoperable valve(s) to OPERABLE status within 4 hours, or (A.6)

b. Isolate each affected penetration within 4 hours by use of at least one deactivated automatic valve secured in the isolation position, or

72 hours for ACTION C (L.2)

c. Isolate each affected penetration within 4 hours by use of at least one closed manual valve or blind flange; or

Add proposed ACTION B (A.11)

ACTION D

d. Be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

~~The provisions of Specifications 3.0.4 are not applicable.~~ (A.7)

SURVEILLANCE REQUIREMENTS

~~4.6.3.1.1 Each containment isolation valve shall be demonstrated OPERABLE prior to returning the valve to service after maintenance, repair or replacement work is performed on the valve or its associated actuator, control or power circuit by performance of a cycling test and verification of isolation time.~~ (L.4)

ITS 3.6.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

24 L.5

L.13

SR 3.6.3.5 4.6.3.1.2 ~~Each~~ containment isolation valve specified shall be demonstrated OPERABLE at least once per ~~18~~ months by:

actual or

LA.1

a. Verifying that on a ~~Phase A containment~~ isolation test signal, each ~~Phase A~~ isolation valve actuates to its isolation position.

b. Verifying that on a ~~Phase B containment~~ isolation test signal, each ~~Phase B~~ isolation valve actuates to its isolation position.

c. Verifying that on a ~~Containment Purge and Exhaust~~ isolation signal, each ~~Purge and Exhaust~~ valve actuates to its isolation position.

not locked, sealed, or otherwise secured in position

L.6

SR 3.6.3.4 4.6.3.1.3.1 The isolation time of each power operated ~~or~~ automatic containment isolation valve shall be determined to be within its limit when tested ~~pursuant to Specification 4.0.5~~

L.7

in accordance with the Inservice Testing Program

A.8

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A.1

ITS

SURVEILLANCE REQUIREMENTS (Continued)

See ITS 3.6.3

4.6.3.1.2 Each containment isolation valve specified shall be demonstrated OPERABLE at least once per 18 months by:

a. Verifying that on a Phase A containment isolation test signal, each Phase A isolation valve actuates to its isolation position.

b. Verifying that on a Phase B containment isolation test signal, each Phase B isolation valve actuates to its isolation position.

Add proposed SR 3.9.3.2 Note

L.3

SR 3.9.3.2

c. Verifying that on a Containment Purge and Exhaust actual or simulated isolation signal, each Purge and Exhaust valve actuates to its isolation position.

L.4

See ITS 3.6.3

4.6.3.1.3.1 The isolation time of each power operated or automatic containment isolation valve shall be determined to be within its limit when tested pursuant to Specification 4.0.5.

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A.1

Page 3/4 6-16 through 3/4 6-32
deleted

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ITS 3.3.3

ITS

A.1

CONTAINMENT SYSTEMS

3/4.6.4 COMBUSTIBLE GAS CONTROL

HYDROGEN ANALYZERS

LIMITING CONDITION FOR OPERATION

Table 3.3.3-1 Function 11

3.6.4.1 Two containment hydrogen analyzers shall be OPERABLE. M.7

APPLICABILITY: Modes 1 ~~and~~ 2, 3

Add proposed ACTIONS Note 1 L.10

ACTION:

Add proposed ACTIONS Note 2 A.2

ACTION A — a. With one hydrogen analysis device inoperable, restore the inoperable analysis device to OPERABLE status within 30 days ~~or be in at least~~

ACTION B — ~~HOT STANDBY within the next 6 hours.~~ Add proposed Required Action B.1 L.1

ACTION D — b. With both hydrogen analysis devices inoperable, restore at least one analysis device to OPERABLE status within 72 hours or be in at

ACTIONS E and F — least HOT STANDBY within the next 6 hours.

and in MODE 4 within 12 hours M.7

SURVEILLANCE REQUIREMENTS

SR 3.3.3.2 4.6.4.1 Each hydrogen analysis device shall be demonstrated OPERABLE at least once per 92 days ~~on a STAGGERED TEST BASIS~~ by performing a CHANNEL CALIBRATION using a four percent and fifteen percent nominal hydrogen gas, balance nitrogen. L.13 LA.3

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A.1

ITS

CONTAINMENT SYSTEMS

ELECTRIC HYDROGEN RECOMBINERS - W

LIMITING CONDITION FOR OPERATION

LA.1

LCO 3.6.8 3.6.4.2 Two ~~independent~~ containment hydrogen recombiner systems shall be OPERABLE.

APPLICABILITY: MODES 1 and 2.

ACTION:

Add proposed Required Action A.1 Note — L.1

ACTION A / ACTION C — With one hydrogen recombiner system inoperable, restore the inoperable system to OPERABLE status within 30 days or be in at least HOT STANDBY within the next 6 hours.

Add proposed ACTION B — L.2

SURVEILLANCE REQUIREMENTS

4.6.4.2 Each hydrogen recombiner system shall be demonstrated OPERABLE:

SR 3.6.8.1 a. At least once per ~~18~~ 24 months by verifying during a recombiner system functional test ~~that the minimum heater sheath temperature increases to ≥700 °F within 90 minutes and is maintained for at least 2 hours.~~ L.3 LA.2

b. At least once per ~~18~~ 24 months by: L.3

~~1. Performing a CHANNEL CALIBRATION of all recombiner instrumentation and control circuits.~~ L.4

SR 3.6.8.2 2. Verifying through a visual examination that there is no evidence of abnormal conditions within the recombiners ~~(i.e., loose wiring or structural connections, deposits of foreign materials, etc.).~~ LA.2

SR 3.6.8.1 3. Verifying during a recombiner system functional test ~~that the heater sheath temperature increases to ≥ 1200 °F within 5 hours and is maintained for at least 4 hours.~~ LA.2

SR 3.6.8.3 4. Verifying the integrity of all heater electrical circuits by performing a continuity and resistance to ground test ~~following the above required functional test. The resistance to ground for any heater phase shall be ≥ 10,000 ohms.~~ LA.2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

DISTRIBUTED IGNITION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.6.9 — 3.6.4.3 Both trains of the Distributed Ignition System shall be OPERABLE. Add second part of LCO 3.6.9 — L.1

APPLICABILITY: MODES 1 and 2.

ACTION:

ACTION A — With one train of the Distributed Ignition System inoperable:

a. Restore the inoperable train to OPERABLE status within 7 days, or

b. Perform surveillance requirement 4.6.4.3a once per 7 days on the OPERABLE train ~~until the inoperable train is restored to OPERABLE status~~. — A.2

ACTION B — With no OPERABLE hydrogen igniter in one containment region, restore one hydrogen igniter in the affected containment region to OPERABLE status within 7 days,

ACTION C — or be in HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.6.4.3 Each train of the Distributed Ignition System shall be demonstrated OPERABLE:

SR 3.6.9.1 — a. Once per 92 days by energizing the supply breakers and verifying that at least 34 ~~of 35~~ igniters are energized. — LA.1

184 — L.3

SR 3.6.9.2 — b. Once per 92 days, by verifying at least one hydrogen igniter is OPERABLE in each containment region. — L.1

SR 3.6.9.3 — c. Once per 18 months by verifying the temperature of each igniter is a minimum 1700°F.

24 — L.2

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

3/4.6.5 ICE CONDENSER

ICE BED

LIMITING CONDITION FOR OPERATION

Add proposed boron concentration upper limit — M.1

LCO 3.6.11 3.6.5.1 The ice bed shall be OPERABLE with:

SR 3.6.11.6 a. The stored ice having boron concentration of at least 1800 ppm ~~(the boron being in the form of sodium tetraborate)~~ and a pH of 9.0 to 9.5 at 25°C — LA.1

SR 3.6.11.4 b. Flow channels through the ice condenser,

SR 3.6.11.1 c. A maximum ice bed temperature of ≤ 27°F,

SR 3.6.11.2 ~~d. Ice baskets containing at least 1144 lbs of ice (end-of-cycle), and~~

~~e. 1944 ice baskets.~~

Add proposed total mass and zone requirements — L.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With the ice bed inoperable, restore the ice bed to OPERABLE status within 48 hours

ACTION B — or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.1 The ice condenser shall be determined OPERABLE:

SR 3.6.11.1 a. At least once per 12 hours ~~by using the ice bed temperature monitoring system~~ to verify that the maximum ice bed temperature is ≤ 27°F. — LA.2

b. At least once per 18 months by: — 54 for SR 3.6.11.6 — L.2

Add proposed SR 3.6.11.6 Note — L.3

SR 3.6.11.6 1. Chemical analyses which verify that at least 9 representative samples of stored ice have a boron concentration of at least 1800 ppm ~~(the boron being in the form of sodium tetraborate)~~ and a pH of 9.0 to 9.5 at 25°C — M.2 — LA.1

SR 3.6.11.2 2. ~~Weighing a representative sample of at least 144 ice baskets and verifying that each ice basket contains at least 1144 lbs of ice (end-of-cycle). The representative sample shall include 6 baskets from each of the 24 ice condenser bays and~~

Add proposed boron concentration upper limit — M.1

Add proposed total mass and zone requirements — L.1

ITS 3.6.11

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

Add proposed total mass and zone requirements — L.1

SR 3.6.11.2

~~shall be constituted of one basket each from Radial Rows 1, 2, 4, 6, 8 and 9 (or from the same row of an adjacent bay if a basket from a designated row cannot be obtained for weighing) within each bay. If any basket is found to contain less than 1144 pounds of ice (end-of-cycle), a representative sample of 20 additional baskets from the same bay shall be weighed. The minimum average weight of ice from the 20 additional baskets and the discrepant basket shall not be less than 1144 pounds/basket (end-of-cycle) at a 95% level of confidence.~~

SR 3.6.11.3

~~The ice condenser shall also be subdivided into 3 groups of baskets, as follows: Group 1 - bays 1 through 8, Group 2 - bays 9 through 16, and Group 3 - bays 17 through 24. The minimum average ice weight of the sample baskets from Radial Rows 1, 2, 4, 6, 8 and 9 in each group shall not be less than 1144 pounds/basket (end-of-cycle) at a 95% level of confidence.~~

Add proposed ice mass requirement — L.1

SR 3.6.11.2

~~The minimum total ice condenser ice weight at a 95% level of confidence shall be calculated using all ice basket weights determined during this weighing program and shall not be less than 2,222,000 pounds (end-of-cycle).~~

SR 3.6.11.4

3. ~~Verifying, by a visual inspection~~ of at least two flow passages per ice condenser bay, that the ~~accumulation of frost or ice on the~~ ~~top deck floor grating, on the intermediate deck and on flow passages between ice baskets and past lattice frames is restricted to a nominal thickness of 3/8 inches. If one flow passage per bay is found to have an accumulation of frost or ice greater than this thickness, a representative sample of 20 additional flow passages from the same bay shall be visually inspected. If these additional flow passages are found acceptable, the surveillance program may proceed considering the single deficiency as unique and acceptable. More than one restricted flow passage per bay is evidence of abnormal degradation of the ice condenser.~~ — L.4, L.1

accumulation of ice on structural members comprising flow channels through the ice bed is ≤ 15% blockage of the total flow area for each safety analysis section

c. ~~At least once per 18 months by verifying, by a visual inspection, each ice condenser bay, that the accumulation of frost or ice on the lower plenum support structures and turning vanes is restricted to a nominal thickness of 3/8 inches. An accumulation of frost or ice greater than this thickness is evidence of abnormal degradation of the ice condenser.~~ — L.4

SR 3.6.11.5

d. At least once per 40 months by lifting and visually inspecting the accessible portions of at least two ice baskets from each 1/3 of the ice condenser and verifying that the ice baskets are free of detrimental structural wear, cracks, corrosion or other damage. ~~The ice baskets shall be raised at least 12 feet for this inspection.~~

Add proposed ice basket wear/damage requirements — L.1

Add proposed SR 3.7.11.7 — M.3

CONTAINMENT SYSTEMS

ICE BED TEMPERATURE MONITORING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.2. The ice bed temperature monitoring system shall be OPERABLE with at least 2 OPERABLE RTD channels in the ice bed at elevations 652' 2 1/4", 672' 5 1/4" and 696' 2 1/4" for each one third of the ice condenser.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

a. With the ice bed temperature monitoring system inoperable, POWER OPERATION may continue for up to 30 days provided:

1. The ice compartment lower inlet doors, intermediate deck doors, and top deck doors are closed;

2. The last recorded mean ice bed temperature was ≤ 20°F and steady; and

3. The ice condenser cooling system is OPERABLE with at least:

a) 21 OPERABLE air handling units,

b) 2 OPERABLE glycol circulating pumps, and

c) 3 OPERABLE refrigerant units;

otherwise, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With the ice bed temperature monitoring system inoperable and with the ice condenser cooling system not satisfying the minimum components OPERABILITY requirements of a.3 above, POWER OPERATION may continue for up to 6 days provided the ice compartment lower inlet doors, intermediate deck doors, and top deck doors are closed and the last recorded mean ice bed temperature was ≤ 15°F and steady; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

R.1

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CTS 3/4.6.5.2

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.6.5.2 The ice bed temperature monitoring system shall be determined OPERABLE by performance of a CHANNEL CHECK at least once per 12 hours.

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R.1

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ITS 3.6.12

A.1

ITS

CONTAINMENT SYSTEMS

ICE CONDENSER DOORS

LIMITING CONDITION FOR OPERATION

LCO 3.6.12 3.6.5.3 The ice condenser inlet doors, intermediate deck doors, and top deck doors shall be closed and OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTIONS Note 1 — L.1

Add proposed ACTIONS Note 2 — L.2

ACTION:

Add proposed ACTION A — M.1

ACTION B With one or more ice condenser doors open or otherwise inoperable, POWER OPERATION may continue for up to 14 days provided the ice bed temperature is monitored at least once per 4 hours and the maximum ice bed temperature is maintained less than or equal to 27°F;

ACTION C otherwise, restore the doors to their closed positions or OPERABLE status (as applicable) within 48 hours or be in at

ACTION D least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.6.5.3.1 Inlet Doors - Ice condenser inlet doors shall be:

Once per 12 hours — L.3

SR 3.6.12.1 a. Continuously monitored and determined closed by the inlet door position monitoring system, and — LA.1

b. Demonstrated OPERABLE during shutdown at least once per 18 months by: — L.4

SR 3.6.12.5 1. Verifying that the torque required to initially open each door is less than or equal to 675 inch pounds.

SR 3.6.12.4 2. Verifying that opening of each door is not impaired by ice, frost or debris.

Perform a torque test — LA.2

SR 3.6.12.6 3. Testing each one of the doors and verifying that the torque required to open each door is less than 195 inch-pounds when the door is 40 degrees open. This torque is defined as the "door opening torque" and is equal to the nominal door torque plus a frictional torque component.

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A.1

ITS

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Testing each one of the doors and verifying that the torque required to keep each door from closing is greater than 78 inch-pounds when the door is 40 degrees open. This torque is defined as the "door closing torque" and is equal to the nominal door torque minus a frictional torque component. LA.2

5. Calculation of the frictional torque of each door tested in accordance with 3 and 4, above. The calculated frictional torque shall be less than or equal to 40 inch-pounds.

4.6.5.3.2 Intermediate Deck Doors - Each ice condenser intermediate deck door shall be:

SR 3.6.12.2 a. Verified closed and that opening of each door is not impaired by ice, frost or debris by a visual inspection at least once per 7 days, and

SR 3.6.12.7 b. Demonstrated OPERABLE at least once per 18 months by visually verifying no structural deterioration, by verifying free movement of the vent assemblies, and by ascertaining free movement when lifted with the applicable force shown below.

Door	Lifting Force
1. Adjacent to Crane Wall	Less than or equal to 37.4 lbs.
2. Paired with Door Adjacent to Crane Wall	Less than or equal to 33.8 lbs.
3. Adjacent to Containment Wall	Less than or equal to 31.8 lbs.
4. Paired with Door Adjacent to Containment Wall	Less than or equal to 31.0 lbs.

LA.3

SR 3.6.12.3 4.6.5.3.3 Top Deck Doors - Each ice condenser top deck door shall be determined closed and OPERABLE at least once per 92 days by visually verifying:

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ITS 3.6.12

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ITS

CONTAINMENT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.6.12.3

a. That the doors are in place, and

b. That no condensation, frost, or ice has formed on the doors or blankets which would restrict their lifting and opening if required.

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CTS 3/4.6.5.4

CONTAINMENT SYSTEMS

INLET DOOR POSITION MONITORING SYSTEM

LIMITING CONDITION FOR OPERATION

3.6.5.4 The inlet door position monitoring system shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With the inlet door position monitoring system inoperable, POWER OPERATION may continue for up to 14 days, provided the ice bed temperature monitoring system is OPERABLE and the maximum ice bed temperature is $\leq 27°F$ when monitored at least once per 4 hours; otherwise, restore the inlet door position monitoring system to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

R.1

4.6.5.4 The inlet door position monitoring system shall be determined OPERABLE by:

a. Performing a CHANNEL CHECK at least once per 12 hours,

b. Performing a CHANNEL FUNCTIONAL TEST at least once per 18 months, and

c. Verifying that the monitoring system correctly indicates the status of each inlet door as the door is opened and reclosed during its testing per Specification 4.6.5.3.1.

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ITS 3.6.13

A.1

ITS

CONTAINMENT SYSTEMS

DIVIDER BARRIER PERSONNEL ACCESS DOORS AND EQUIPMENT HATCHES

LIMITING CONDITION FOR OPERATION

LCO 3.6.13, SR 3.6.13.1

3.6.5.5 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be OPERABLE and closed. A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION: Add proposed Condition A Note A.3

one or more

ACTION A

With a personnel access door or equipment hatch inoperable or open except for personnel transit entry and T_{avg} > 200°F, restore the door or hatch to OPERABLE status or to its closed position (as applicable) within 1 hour or be in at least HOT STANDBY within the next 6 hours and LCO 3.6.13 Note

ACTION C

in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.6.13.1, SR 3.6.13.3

4.6.5.5.1 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined closed by a visual inspection prior to increasing the Reactor Coolant System T_{avg} above 200°F and after each personnel transit entry when the Reactor Coolant System T_{avg} is above 200°F.

SR 3.6.13.2

4.6.5.5.2 The personnel access doors and equipment hatches between the containment's upper and lower compartments shall be determined OPERABLE by visually inspecting the seals and sealing surfaces of these penetrations and verifying no detrimental misalignments, cracks or defects in the sealing surfaces, or apparent deterioration of the seal material:

a. Prior to final closure of the penetration each time it has been opened, and

b. At least once per 10 years for penetrations containing seals fabricated from resilient materials.

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

CONTAINMENT AIR RECIRCULATION SYSTEMS

LIMITING CONDITION FOR OPERATION

LA.1

LCO 3.6.10 — 3.6.5.6 Two ~~independent~~ containment air recirculation systems shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

72 — L.4

ACTION A — With ~~one~~ containment air recirculation system inoperable, restore the inoperable system to OPERABLE status within ~~48~~ hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the

ACTION B — following 30 hours.

SURVEILLANCE REQUIREMENTS

L.1

4.6.5.6 Each ~~containment air recirculation~~ system shall be ~~demonstrated~~ OPERABLE at least once per 92 days on a ~~STAGGERED TEST BASIS~~ by:

actual or simulated — L.2

SR 3.6.10.1, SR 3.6.10.4 — a. Verifying that the return air fan starts on an ~~auto-start~~ signal after a 120 ± 12 seconds delay, the motor operated valve in the suction line to the containment's lower compartment opens ~~when the return air fan starts~~ and the return air fan operates for at least 15 minutes (applicable in MODES 1, 2, and 3 only).

actual — LA.2

or simulated signal — L.2

SR 3.6.10.2 — b. Verifying that with the return air fan discharge backdraft damper locked closed and the fan motor energized, the static pressure between the fan discharge and the backdraft damper is ≥ 4.0 inches, water gauge.

SR 3.6.10.3 — c. Verifying that with the fan off, the return air fan damper opens when a force of ≤ 11 lbs is applied to the counterweight.

~~d. Verifying that the return air fan can be manually started from the control room, and the motor operated valve in the suction line to the containment's lower compartment opens when the return air fan starts.~~ — L.3

ITS 3.6.14

A.1

ITS

CONTAINMENT SYSTEMS

FLOOR DRAINS

LIMITING CONDITION FOR OPERATION

LCO 3.6.14 — 3.6.5.7 The ice condenser floor drains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTIONS A and C — ~~With the ice condenser floor drain inoperable, restore the floor drain to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.~~

Add proposed ACTIONS A and C — A.2

SURVEILLANCE REQUIREMENTS

L.1

SR 3.6.14.3 — 4.6.5.7 Each ice condenser floor drain shall be demonstrated OPERABLE at least once per 18 months ~~during shutdown~~ by:

a. Verifying that valve gate opening is not impaired by ice, frost or debris.

b. Verifying that the valve seat is not damaged.

c. Verifying that the valve gate opens when a force of $\leq$ 100 lbs is applied.

d. Verifying that the drain line from the ice condenser floor to the containment lower compartment is unrestricted.

D. C. COOK - UNIT 2 3/4 6-45

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ITS

A.1

CONTAINMENT SYSTEMS

REFUELING CANAL DRAINS

LIMITING CONDITION FOR OPERATION

Two — L.2

LCO 3.6.14 — 3.6.5.8 ~~The~~ refueling canal drains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTIONS B and C — ~~With a refueling canal drain inoperable, restore the drain to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.~~

Add proposed ACTIONS B and C — A.2

SURVEILLANCE REQUIREMENTS

required — L.2

SR 3.6.14.2 — 4.6.5.8 Each required refueling canal drain shall be demonstrated OPERABLE prior to increasing the Reactor Coolant System temperature above 200°F after each partial or complete filling of the canal with water by verifying that the blind flange is removed from the drain line and that the drain is not obstructed by debris.

Add SR 3.6.14.1 — M.1

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.6 CONTAINMENT SYSTEMS

DIVIDER BARRIER SEAL

LIMITING CONDITION FOR OPERATION

LCO 3.6.13 — 3.6.5.9 The divider barrier seal shall be OPERABLE. — A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION: — Add proposed ACTIONS B and C — A.4

ACTIONS B and C — ~~With the divider barrier seal inoperable, restore the seal to OPERABLE status prior to increasing the Reactor Coolant System temperature above 200°F.~~

SURVEILLANCE REQUIREMENTS — 24 — L.1

4.6.5.9 The divider barrier seal shall be determined OPERABLE at least once per ~~18~~ months ~~during shutdown~~ by: — L.2

SR 3.6.13.4 — a. Removing two divider barrier seal test coupons and verifying that the physical properties of the test coupons are within the acceptable range of values shown in Table 3.6-2.

SR 3.6.13.5 — b. Visually inspecting at least 95 percent of the seal's entire length and:

1. Verifying that the seal and seal mounting bolts are properly installed, and

2. Verifying that the seal material shows no visual evidence of deterioration due to holes, ruptures, chemical attack, abrasion, radiation damage, or changes in physical appearances.

ITS 3.6.13

A.1

ITS

SR 3.6.13.4

TABLE 3.6-2

DIVIDER BARRIER SEAL
ACCEPTABLE PHYSICAL PROPERTIES

~~Material~~	Tensile Strength	Elongation
~~Uniroyal 3007 or Equal*~~	120 psi	100%

LA.1

~~*Equal defined as meeting at least the requirements discussed in Question 5.98 of the plant's FSAR~~

LA.1

A.1

ITS 3.7.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.1 TURBINE CYCLE

SAFETY VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.7.1 3.7.1.1 All main steam line code safety valves associated with each steam generator shall be OPERABLE. A.2

APPLICABILITY: MODES 1, 2 and 3.

Add proposed ACTIONS Note

ACTION: Add proposed Required Action A.2 Note L.1

ACTION A
ACTION B

a. ~~MODES 1 & 2: With 4 reactor coolant loops and associated steam generators in operation, and~~ with one or more main steam line code safety valves inoperable, operation may proceed provided that within 4 [36] hours, ~~either the inoperable valve(s) are restored to OPERABLE status, or~~ the Power Range Neutron Flux High Setpoint trip is reduced per Table 3.7-1; otherwise, be in HOT STANDBY within the next 6 hours and comply with action statement b. M.1 L.2 A.3

Add proposed Required Action A.1 A.4

ACTION A
ACTION B

b. ~~MODE 3: With a minimum of 3 reactor coolant loops and associated steam generators in operation,~~ and with one or more main steam line code safety valves associated with an operating loop inoperable, operation may proceed provided that within 4 hours, ~~either the inoperable valve(s) are restored to OPERABLE status, or the reactor trip breakers are opened;~~ otherwise, be in HOT SHUTDOWN within the next 30 [12] hours. M.1 A.3 M.1 M.1

~~c. The provisions of Specification 3.0.4 are not applicable.~~ A.5

Add proposed second Condition of ACTION B M.2

SURVEILLANCE REQUIREMENTS

SR 3.7.1.1 4.7.1.1 Each main steam line code safety valve shall be demonstrated OPERABLE in accordance with Specification 4.0.5 and with lift settings as shown in Table 4.7-1. The safety valve shall be reset to the nominal value ±1% whenever found outside the ±1% tolerance. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

A.1

ITS 3.7.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

TABLE 3.7-1

Table 3.7.1-1

MAXIMUM ALLOWABLE POWER RANGE NEUTRON ~~FLUX~~ HIGH SETPOINT WITH INOPERABLE STEAM LINE SAFETY VALVES DURING 4 ~~LOOP~~ OPERATION

Maximum Number of Inoperable Safety Valves on Any Operating Steam Generator	Maximum Allowable Power Range Neutron Flux High Setpoint (Percent of RATED THERMAL POWER)
~~1~~ 4	60.4
~~2~~ 3	43.0
~~3~~ 2	25.7

A.4

A.1

ITS

3/4.7 PLANT SYSTEMS

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A.1

ITS

Table 3.7.1-2

TABLE 4.7-1

STEAM LINE SAFETY VALVES PER LOOP

VALVE NUMBER	LIFT SETTING (±3%)*	~~ORIFICE SIZE~~
a. SV-1A	1065 psig	~~16 in.^{2}~~
b. SV-1B	1065 psig	~~16 in.^{2}~~
c. SV-2A	1075 psig	~~16 in.^{2}~~
d. SV-2B	1075 psig	~~16 in.^{2}~~
e. SV-3	1085 psig	~~16 in.^{2}~~

LA.1

~~* The lift setting pressure shall correspond to ambient conditions of the valve at nominal operating temperature and pressure.~~

LA.2

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ITS 3.7.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

AUXILIARY FEEDWATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.1.2

LCO 3.7.5

a. At least three independent steam generator auxiliary feedwater pumps and associated flow paths shall be OPERABLE with: (trains — LA.1; LA.1) (Add proposed LCO Note — M.1)

1. Two motor-driven auxiliary feedwater pumps, each capable of being powered from separate emergency busses, and

2. One steam turbine-driven auxiliary feedwater pump capable of being powered from an OPERABLE steam supply system. (LA.1)

b. ~~At least one auxiliary feedwater flow path in support of Unit 1 shutdown function shall be available.~~ (L.1)

APPLICABILITY: Specification 3.7.1.2.a - MODES 1, 2, 3.
~~Specification 3.7.1.2.b - At all times when Unit 1 is in MODES 1, 2, or 3.~~ (L.1)

Add proposed second Applicability (M.1)

ACTIONS:

When Specification 3.7.1.2.a is applicable: (Add proposed ACTION A — L.2) (train — LA.1)

ACTION B / ACTION C — a. With one auxiliary feedwater pump inoperable, restore the required auxiliary feedwater pumps to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in HOT Shutdown within the following 6 hours. (18 — L.3)

ACTION C — b. With two auxiliary feedwater pumps inoperable, be in at least HOT STANDBY within 6 hours and in HOT SHUTDOWN within the following 6 hours. (train — LA.1) (18)

Add proposed Required Action D.1 Note (L.4)

ACTION D — c. With three auxiliary feedwater pumps inoperable, immediately initiate corrective action to restore at least one auxiliary feedwater pump to OPERABLE status as soon as possible. (train — LA.1)

Add proposed ACTION E (M.1)

~~When Specification 3.7.1.2.b is applicable:~~

~~With no flow path to Unit 1 available, return at least one flow path to available status within 7 days, or provide equivalent shutdown capability in Unit 1 and return at least one flow path to available status within the next 60 days, or have Unit 1 in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours. The requirements of Specification 3.0.4 are not applicable.~~ (L.1)

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ITS 3.7.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

4.7.1.2 Each auxiliary feedwater pump shall be demonstrated OPERABLE when tested pursuant to Specification 4.0.5 by:

L.5 — Add proposed SR 3.7.5.2 Note

SR 3.7.5.2 a. Verifying that each motor driven auxiliary feed pump's developed head at the test flow point is greater than or equal to the required developed head.

SR 3.7.5.2 b. Verifying that the turbine driven auxiliary feedwater pump's developed head at the test flow point is greater than or equal to the required developed head. ~~The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.~~ A.2

SR 3.7.5.1 c. Verifying at least once per 31 days that each ~~non-automatic~~ [manual, and power operated] valve in the flow path [and in both steam supply flow paths to the steam turbine driven pump] that is not locked, sealed, or otherwise secured in position is in its correct position. A.3

SR 3.7.5.1 d. Verifying at least once per 31 days that each automatic valve in the flow path [that is not locked, sealed, or otherwise secured in position] is in the correct position ~~whenever the auxiliary feedwater system is placed in automatic control or when above 10% RATED THERMAL POWER.~~ This requirement is not applicable for those portions of the auxiliary feedwater system being used intermittently to maintain steam generator level. [if capable of being manually realigned to the AFW mode of operation] L.6 L.7 M.2

SR 3.7.5.3 e. [Add proposed SR 3.7.5.3 Note] Verifying at least once per ~~18~~ 24 months that each automatic valve in the flow path actuates to its correct position upon receipt of the appropriate ~~engineered safety features~~ [actual or] actuation test signal ~~required by Specification 3/4.3.2.~~ L.8 LA.2 L.9

SR 3.7.5.4 f. [Add proposed SR 3.7.5.4 Note 2] [Add proposed SR 3.7.5.4 Note 1] Verifying at least once per ~~18~~ 24 months that each auxiliary feedwater pump starts as designed automatically upon receipt of the appropriate ~~engineered safety features~~ [actual or] actuation test signal ~~required by Specification 3/4.3.2.~~ L.8 LA.2 L.9

~~g. Verifying at least once per 18 months that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.~~ L.1

L.5

Add proposed SR 3.7.5.1 and SR 3.7.5.2 for MODE 4 requirement. M.1

ITS 3.7.6

ITS

A.1

PLANT SYSTEMS

CONDENSATE STORAGE TANK

LIMITING CONDITION FOR OPERATION

LCO 3.7.6
SR 3.7.6.1

3.7.1.3 The condensate storage tank (CST) shall be OPERABLE with a minimum contained volume of ~~175,000~~ 162,000 gallons of water. M.1

APPLICABILITY: MODES 1, 2 and 3. Add proposed second Applicability M.2

ACTION: A.2 L.1

With the condensate storage tank inoperable, within 4 hours either:

ACTION A
ACTION B

a. Restore the CST to OPERABLE status or be in HOT SHUTDOWN MODE 3 within 6 hours without reliance on steam generator for heat removal within ~~the next 12~~ 24 hours, or

ACTION A
ACTION B

b. Demonstrate the OPERABILITY of the Essential Service Water System as a backup supply ~~to the auxiliary feedwater pumps~~ without reliance on steam generator for heat removal and restore the condensate storage tank to OPERABLE status within 7 days or be in HOT SHUTDOWN MODE 3 within 6 hours within ~~the next 12~~ 24 hours. LA.1 M.2 L.1

SURVEILLANCE REQUIREMENTS

SR 3.7.6.1

4.7.1.3.1 The condensate storage tank shall be demonstrated OPERABLE at least once per 12 hours by verifying the contained water volume is within its limits ~~when the tank is the supply source for the auxiliary feedwater pumps~~. A.3

Required Action A.1 and second Completion Time

4.7.1.3.2 The Essential Service Water System backup water supply shall be demonstrated OPERABLE at least once per 12 hours by verifying that the Essential Service Water System is in operation whenever the Essential Service Water System is the supply source for the auxiliary feedwater pumps. LA.1 LA.2

ITS 3.7.17

A.1

ITS

PLANT SYSTEMS

ACTIVITY

LIMITING CONDITION FOR OPERATION

LCO 3.7.17

3.7.1.4 The specific activity of the secondary coolant system shall be $\leq$0.10 µCi/gram DOSE EQUIVALENT I-131.

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

ACTION:

ACTION A

With the specific activity of the secondary coolant system > 0.10 µCi/gram DOSE EQUIVALENT I-131, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

SR 3.7.17.1

4.7.1.4 The specific activity of the secondary coolant system shall be determined to be within the limit ~~by performance of the sampling and analysis program of Table 4.7-2~~ every 31 days.

L.1 M.1

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ITS 3.7.17

A.1

ITS

TABLE 4.7-2

SECONDARY COOLANT SYSTEM SPECIFIC ACTIVITY
SAMPLE AND ANALYSIS PROGRAM

	TYPE OF MEASUREMENT AND ANALYSIS	SAMPLE AND ANALYSIS FREQUENCY	
	1. ~~Gross Activity Determination~~	~~At least once per 72 hours.~~	L.1
SR 3.7.17.1	2. ~~Isotopic Analysis~~ for DOSE EQUIVALENT I-131 Concentration	a) ~~1 per 31 days, whenever the gross activity determination indicates iodine concentrations greater than 10% of the allowable limit.~~ b) ~~1 per 6 months, whenever the gross activity determination indicates iodine concentrations below 10% of the allowable limit.~~	LA.1 M.1

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ITS 3.7.2

ITS

A.1

PLANT SYSTEMS

STEAM GENERATOR STOP VALVES

LIMITING CONDITION FOR OPERATION

LCO 3.7.2 3.7.1.5 Each steam generator stop valve shall be OPERABLE.

APPLICABILITY: MODES 1, 2 and 3. except when all SGSVs are closed L.1

ACTION:

MODE 1 With one steam generator stop valve inoperable ~~but open,~~ POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 8 hours; otherwise, reduce power to less than or equal to 5 percent of RATED THERMAL POWER within the next 6 hours. M.1

ACTION A

ACTION B

Add proposed Condition C Note A.2

MODES 2 and 3 With one or more steam generator stop valves inoperable, close the inoperable valve(s) within 8 hours and verify the inoperable valves are closed at least once per 7 days. Otherwise, be in at least MODE 4 within 12 hours, with the unit in at least MODE 3 within the first 6 hours.

ACTION C

ACTION D

~~The provisions of Specification 3.0.4 are not applicable.~~ A.3

SURVEILLANCE REQUIREMENTS

SR 3.7.2.1 4.7.1.5.1 Each steam generator stop valve ~~that is open~~ shall be demonstrated OPERABLE by verifying full closure within 8 seconds when tested pursuant to Specification 4.0.5. A.4

SR 3.7.2.1 Note 4.7.1.5.2 The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.

~~4.7.1.5.3 The provisions of Specification 4.0.4 are not applicable for entry into MODE 2 when performing PHYSICS TESTS at the beginning of a cycle provided the steam generator stop valves are maintained closed.~~ A.5

Add proposed SR 3.7.2.2 M.2

CTS 3/4.7.2

R.1

PLANT SYSTEMS

3/4.7.2 STEAM GENERATOR PRESSURE/TEMPERATURE LIMITATION

LIMITING CONDITION FOR OPERATION

3.7.2.1 The temperatures of both the primary and secondary coolants in the steam generators shall be > 70°F when the pressure of either coolant in the steam generator is > 200 psig.

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied:

a. Reduce the steam generator pressure of the applicable side to ≤ 200 psig within 30 minutes, and

b. Perform an engineering evaluation to determine the effect of the overpressurization on the structural integrity of the steam generator. Determine that the steam generator remains acceptable for continued operation prior to increasing its temperatures above 200°F.

SURVEILLANCE REQUIREMENTS

4.7.2.1 The pressure in each side of the steam generator shall be determined to be < 200 psig at least once per hour when the temperature of either the primary or secondary coolant is < 70°F.

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ITS 3.7.7

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.3 COMPONENT COOLING WATER SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.3.1

LCO 3.7.7 a. At least two ~~independent~~ component cooling water loops shall be OPERABLE. LA.1

~~b. At least one component cooling water flow path in support of Unit 1 shutdown functions shall be available.~~ L.1

APPLICABILITY: Specification 3.7.3.1.a. - MODES 1, 2, 3, 4.
~~Specification 3.7.3.1.b. - At all times when Unit 1 is in MODES 1, 2, 3, or 4.~~ L.1

ACTION:

When Specification 3.7.3.1.a is applicable: Add proposed Required Action A.1 Note M.1

ACTION A / ACTION B — With only one component cooling water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

~~When Specification 3.7.3.1.b is applicable:~~

~~With no flowpath to Unit 1 available, return at least one flowpath to available status within 7 days, or provide equivalent shutdown capability in Unit 1 and return at least one flow path to available status within the next 60 days, or have Unit 1 in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours. The requirements of Specification 3.0.4 are not applicable.~~ L.1

SURVEILLANCE REQUIREMENTS

4.7.3.1 At least two component cooling water loops shall be ~~demonstrated OPERABLE:~~ A.2

Add proposed SR 3.7.7.1 Note A.3

SR 3.7.7.1 a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) in the flow path servicing safety related equipment that is not locked, sealed, or otherwise secured in position, is in its correct position.

SR 3.7.7.2 b. At least once per ~~18~~ 24 months by verifying that each automatic valve in the flow path ~~servicing safety related equipment~~ that is not locked, sealed, or otherwise secured in position actuates to its correct position on a actual or ~~Safety Injection~~ test signal. L.2 LA.2 L.4

~~c. By verifying pump performance pursuant to Specification 4.0.5.~~ L.3 LA.3

~~d. At least once per 18 months, verify that the unit cross-tie valves can cycle full travel. Following cycling, the valves will be verified to be in their closed positions.~~ L.1

Add proposed SR 3.7.7.3 M.2

ITS 3.7.8

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.4 ESSENTIAL SERVICE WATER SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.7.8 3.7.4.1 a. At least two ~~independent~~ essential service water loops shall be OPERABLE. LA.1

~~b. At least one essential service water flowpath associated with support of Unit 1 shutdown functions shall be available.~~ L.1

APPLICABILITY: Specification 3.7.4.1.a - Either Unit in MODES 1, 2, 3, and 4.
~~Specification 3.7.4.1.b - At all times when Unit 1 is in MODES 1, 2, 3, or 4.~~ L.1

ACTION:

a. When Unit 2 is in MODES 1, 2, 3, and 4: Add proposed Required Action A.1 Notes 1 and 2 M.1

ACTION A — With only one essential service water loop OPERABLE, restore at least two loops to OPERABLE status within 72 hours ~~or be~~ in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN
ACTION B — within the following 30 hours.

~~b. When Unit 1 is in MODES 1, 2, 3 and 4:~~ M.3

Unit 1 LCO Note and ACTION A — 1. With any Unit 2 essential service water pump not OPERABLE, ~~within one hour~~ close at least one crosstie valve on the associated header or have Unit 1 enter ACTION a for Unit 1 Specification 3.7.4.1 for the Unit 1 essential service water pump sharing the same header with the inoperable Unit 2 essential service water pump.

~~2. With no essential service water flow path available in support of Unit 1 shutdown functions, return at least one flow path to available status within 7 days, or have Unit 1 in HOT STANDBY within the next 12 hours and HOT SHUTDOWN within the following 24 hours. The requirements of Specification 3.0.4 are not applicable.~~ L.1

SURVEILLANCE REQUIREMENTS

4.7.4.1 At least two essential service water loops ~~shall be demonstrated OPERABLE~~: A.2
Add proposed SR 3.7.8.1 Note A.3

SR 3.7.8.1 a. At least once per 31 days by verifying that each valve (manual, power operated or automatic) ~~servicing safety related equipment~~ in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position. L.2 A.3

SR 3.7.8.2 b. At least once per ~~18~~ 24 months by verifying that each automatic valve ~~servicing safety related equipment~~ in the flow path actuates to its correct position on a actual or ~~Safety Injection~~ test signal. LA.2 L.4
that are not locked, sealed, or otherwise secured in position

~~c. By verifying pump performance pursuant to Specification 4.0.5~~ L.3

~~d. At least once per 92 days by verifying that each closed crosstie valve, in the available essential service water flowpath associated with support of Unit 1 shutdown functions, can be cycled from the control room.~~ LA.3 L.1

Add proposed SR 3.7.8.3 M.2

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A.1

ITS 3.3.7

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.3.7 3.7.5.1 The control room emergency ventilation system (CREVS) shall be OPERABLE with:

a. Two independent pressurization trains, and

b. One charcoal adsorber/HEPA filter unit.

NOTE

The control room envelope/pressure boundary may be opened intermittently under administrative control. — See ITS 3.7.10

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies.

ACTION: — Add proposed ACTIONS Note

MODES 1, 2, 3, and 4: — L.1

ACTION A — a. With one pressurization train inoperable, ~~restore~~ place the inoperable train ~~to OPERABLE status~~ in pressurization/cleanup mode within 7 days or be in at least HOT STANDBY within the next 6 hours and in

ACTION C — COLD SHUTDOWN within the following 30 hours. — Add proposed ACTION B

b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

During the movement of irradiated fuel assemblies:

d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, or initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment. — See ITS 3.7.10

e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies.

f. The provisions of Specification 3.0.4 are not applicable to movement of irradiated fuel assemblies.

ITS 3.7.10

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

3/4.7.5 CONTROL ROOM VENTILATION SYSTEM

CONTROL ROOM EMERGENCY VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

Two

trains

LCO 3.7.10 3.7.5.1 ~~The~~ control room emergency ventilation system (CREVS) shall be OPERABLE ~~with~~: LA.1

~~a. Two independent pressurization trains, and~~

~~b. One charcoal adsorber/HEPA filter unit.~~

---NOTE---

The control room envelope/pressure boundary may be opened intermittently under administrative control.

APPLICABILITY: MODES 1, 2, 3, 4, and during the movement of irradiated fuel assemblies. A.7

ACTION:

MODES 1, 2, 3, and 4:

ACTION A
ACTION D
a. With one pressurization train inoperable, restore the inoperable train to OPERABLE status within 7 days ~~or be~~ in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION C
ACTION D
b. With the filter unit inoperable, restore the filter unit to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION B
ACTION D
c. With two CREVS pressurization trains inoperable due to an inoperable control room envelope/pressure boundary, restore the control room envelope/pressure boundary to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Add proposed ACTION G A.2

During the movement of irradiated fuel assemblies:

ACTION A
ACTION E
d. With one pressurization train inoperable, restore the inoperable pressurization train to OPERABLE status within 7 days, ~~or~~ initiate and maintain operation of the remaining OPERABLE train in the pressurization/cleanup alignment. Add proposed Required Action E.2 A.3

ACTION F e. With any of the following: (1) both pressurization trains inoperable; (2) the filter unit inoperable; or (3) the control room envelope/pressure boundary inoperable, immediately suspend all operations involving the movement of irradiated fuel assemblies. LA.2

~~f. The provisions of Specification 3.0.4 are not applicable to movement of irradiated fuel assemblies.~~ A.5

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

L.3

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

L.1

a. Deleted 184

SR 3.7.10.1 b. At least once per ~~31~~ days ~~on a STAGGERED TEST BASIS~~ by initiating ~~flow~~ through the HEPA filter ~~and charcoal~~ adsorber train and verifying that the system operates for at least 15 minutes. LA.3

Add proposed SR 3.7.10.2 A.4

c. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

2. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%. See ITS 5.5

3. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H. The carbon samples not obtained from test canisters shall be prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

4. Verifying a system flow rate of 6000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS

Add proposed ITS 5.5.9 generic program statement

A.9

4.7.5.1 The control room emergency ventilation system shall be demonstrated OPERABLE:

a. Deleted

b. At least once per 31 days on a STAGGERED TEST BASIS by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the system operates for at least 15 minutes.

See ITS 3.7.10

L.3

A.8

24

5.5.9 c. At least once per ~~18~~ months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

while it is in operation that could adversely affect the filter bank or charcoal adsorber capability

5.5.9.b 1. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

5.5.9.a 2. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

LA.5

5.5.9.c 3. Verifying ~~within 31 days after removal~~ that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H. The carbon samples not obtained from test canisters shall be prepared by either:

5.5.9.c.1 a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

5.5.9.c.2 b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

5.5.9.a, 5.5.9.b 4. Verifying a system flow rate of 6000 cfm ± 10% during system operation when tested in accordance with ANSI N510-1975.

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ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

d. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H; or

2. Verifying within 31 days after removal that a laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H. and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also:

   a) Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%, and

   b) Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm ± 10%.

See ITS 5.5

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

5.5.9 d. After every 720 hours of charcoal adsorber operation by either: LA.5

5.5.9.c 1. Verifying ~~within 31 days after removal~~ that a laboratory analysis of a carbon sample obtained from a test canister shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H; or LA.5

5.5.9.c 2. Verifying ~~within 31 days after removal~~ that a laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 1.0% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H. and the samples are prepared by either:

5.5.9.c.1 a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

5.5.9.c.2 b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

~~Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also:~~

~~a) Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%, and~~

~~b) Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm $\pm$ 10%.~~

L.4

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ITS 3.3.7

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

24 — L.2

SR 3.3.7.1 — e. At least once per 18 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%. — See ITS 5.5

Table 3.3.7.1 Function 2
SR 3.3.7.1 — 2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates ~~in the pressurization/cleanup mode~~. — See ITS 3.7.10

Table 3.3.7.1 Function 1
SR 3.3.7.1 — b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates ~~in the pressurization/cleanup mode~~.

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10% with a makeup air flow rate of ≤ 1000 cfm. — See ITS 3.7.10

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%. — See ITS 5.5

ITS 3.7.10

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

L.2

SR 3.7.10.3, SR 3.7.10.4

e. At least once per ~~18~~ 24 months by:

See ITS 5.5

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

A.6

Add proposed Note to SR 3.7.10.3

SR 3.7.10.3

2. a. Verifying that on ~~a Safety Injection Signal from Unit 1~~, the system automatically operates ~~in the pressurization/cleanup mode~~.

an actual or simulated actuation signal

b. Verifying that on ~~a Safety Injection Signal from Unit 2~~, the system automatically operates ~~in the pressurization/cleanup mode~~.

LA.4

SR 3.7.10.4

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere ~~at a system flow rate of 6000 cfm plus or minus 10%~~ with a makeup air flow rate of $\leq$ 1000 cfm on a STAGGERED TEST BASIS.

LA.5

M.1

f. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

See ITS 5.5

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ITS 5.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

L.3

5.5.9 e. At least once per ~~18~~ 24 months by:

5.5.9.d 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

2. a. Verifying that on a Safety Injection Signal from Unit 1, the system automatically operates in the pressurization/cleanup mode.

b. Verifying that on a Safety Injection Signal from Unit 2, the system automatically operates in the pressurization/cleanup mode.

See ITS 3.3.7 and ITS 3.7.10

3. Verifying that the system maintains the control room envelope/pressure boundary at a positive pressure of greater than or equal to 1/16 inch W. G. relative to the outside atmosphere at a system flow rate of 6000 cfm plus or minus 10% with a makeup air flow rate of $\leq$ 1000 cfm.

See ITS 3.7.10

5.5.9 f. After each complete or partial replacement of a HEPA filter bank by verifying that the
5.5.9.a HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

5.5.9 g. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated
5.5.9.b hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1975 while operating the ventilation system at a flow rate of 6000 cfm plus or minus 10%.

A.9

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test Frequencies.

ITS 3.7.11

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

CONTROL ROOM AIR CONDITIONING SYSTEM

LIMITING CONDITION FOR OPERATION

trains

L.1

LCO 3.7.11 3.7.5.2 Two ~~The~~ Control room air conditioning system (CRACS) shall be OPERABLE ~~with two heating and cooling systems.~~ LA.1

APPLICABILITY: MODES 1, 2, 3, and 4. During movement of irradiated fuel assemblies M.1

ACTION: L.1

ACTION A With one ~~heating and~~ cooling system inoperable, restore the inoperable system to OPERABLE status within ~~7~~ 30 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following L.2

ACTION B 30 hours.

Add proposed ACTIONS A, C, and D M.1

Add proposed ACTION E A.2

SURVEILLANCE REQUIREMENTS

SR 3.7.11.1 4.7.5.2 The control room air conditioning system, with one train in operation, shall be demonstrated OPERABLE at least once per 12 hours by verifying that the control room air temperature is less than or equal to ~~95~~ 85°F. M.2

Add proposed SR 3.7.11.2

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ITS 3.7.12

A.1

ITS

PLANT SYSTEMS

3/4.7.6 ESF VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

LA.1

LCO 3.7.12 3.7.6.1 Two independent ESF ventilation system exhaust air filter trains shall be OPERABLE.

Add proposed LCO Note — M.1

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

ACTION A — With one ESF ventilation system exhaust air filter train inoperable, restore the inoperable train to OPERABLE status within 7 days

ACTION C — or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Add proposed ACTION B — M.1

SURVEILLANCE REQUIREMENTS

L.3

4.7.6.1 Each ESF ventilation system exhaust air filter train shall be demonstrated OPERABLE:

L.1

184

SR 3.7.12.1 a. At least once per 31 days on a STAGGERED TEST BASIS by initiating from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

LA.2

Add proposed SR 3.7.12.2 — A.2

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

1. Deleted.

2. Verifying that the charcoal adsorbers remove $\geq$ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

3. Verifying that the HEPA filter banks remove $\geq$ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm $\pm$ 10%.

See ITS 5.5

D. C. COOK - UNIT 2 3/4 7-17 Amendment No111

ITS 5.5

A.1

ITS

PLANT SYSTEMS

3/4.7.6 ESF VENTILATION SYSTEM

LIMITING CONDITION FOR OPERATION

3.7.6.1 Two independent ESF ventilation system exhaust air filter trains shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION:

With one ESF ventilation system exhaust air filter train inoperable, restore the inoperable train to OPERABLE status within 7 days or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

See ITS 3.7.12

SURVEILLANCE REQUIREMENTS

Add proposed ITS 5.5.9 generic program statement

A.9

4.7.6.1 Each ESF ventilation system exhaust air filter train shall be demonstrated OPERABLE:

a. At least once per 31 days on a STAGGERED TEST BASIS by initiating, from the control room, flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

See ITS 3.7.12

L.3

A.8

24 months

5.5.9 b. At least once per ~~18~~ months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by:

while it is in operation that could adversely affect the filter bank or charcoal adsorber capability

1. Deleted.

5.5.9.b 2. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

5.5.9.a 3. Verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm ± 10%.

ITS 3.7.12

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity. The carbon samples not obtained from test canisters shall be prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

See ITS 5.5

5. Verifying a system flow rate of 25,000 cfm plus or minus 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity; or

2. Verifying within 31 days after removal that laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 5% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity and the samples are prepared by either:

   a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

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ITS 5.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.7 PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

LA.5

5.5.9.c 4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity. The carbon samples not obtained from test canisters shall be prepared by either:

5.5.9.c.1 a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

5.5.9.c.2 b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

~~Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.~~ L.4

5.5.9.a, 5.5.9.b 5. Verifying a system flow rate of 25,000 cfm plus or minus 10% during system operation when tested in accordance with ANSI N510-1980.

5.5.9 c. After every 720 hours of charcoal adsorber operation by either:

LA.5

5.5.9.c 1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity; or

LA.5

5.5.9.c 2. Verifying within 31 days after removal that laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 5% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 45.5 fpm face velocity and the samples are prepared by either:

5.5.9.c.1 a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

ITS 3.7.12

A.1

ITS

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

See ITS 5.5

24 — L.2

SR 3.7.12.3 d. At least once per ~~18~~ 24 months by:

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

See ITS 5.5

2. Deleted.

SR 3.7.12.3 3. Verifying that the standby ~~fan~~ train starts automatically on a actual or simulated actuation signal ~~Containment Pressure--High-High Signal and directs its exhaust flow through the HEPA filters and charcoal adsorber banks on a Containment Pressure--High-High Signal.†~~

LA.3

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

See ITS 5.5

Add proposed SR 3.7.12.4 — M.1

~~† The provisions of Technical Specification 4.0.8 are applicable.~~ — A.3

ITS 5.5

A.1

ITS

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

5.5.9.c.2 b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

~~Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.~~ L.4

5.5.9 d. At least once per ~~18~~ 24 months by: L.3

5.5.9.d 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 6 inches Water Gauge while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

2. Deleted.

3. Verifying that the standby fan starts automatically on a Containment Pressure--High-High Signal and directs its exhaust flow through the HEPA filters and charcoal adsorber banks on a Containment Pressure--High-High Signal.† See ITS 3.7.12

5.5.9 e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove greater than or equal

5.5.9.a to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

5.5.9 f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove greater than

5.5.9.b or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 25,000 cfm plus or minus 10%.

A.9

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test Frequencies.

† The provisions of Technical Specification 4.0.8 are applicable. See ITS 3.7.12

CTS 3/4.7.7

LA.1

3/4.7.7 SNUBBERS

LIMITING CONDITION FOR OPERATION

3.7.7.1 All safety-related snubbers shall be OPERABLE.

APPLICABILITY: MODES 1, 2, 3 and 4. (MODES 5 and 6 for snubbers located on systems required OPERABLE in those MODES).

ACTION:

With one or more snubbers inoperable, within 72 hours replace or restore the inoperable snubber(s) to OPERABLE status and perform an engineering evaluation per Specification 4.7.7.1.c on the supported component or declare the supported system inoperable and follow the appropriate ACTION statement for that system.

SURVEILLANCE REQUIREMENTS

4.7.7.1 Each snubber shall be demonstrated OPERABLE by performance of the following augmented inservice inspection program and the requirements of Specification 4.0.5.

a. Visual Inspection

Snubbers are categorized as inaccessible or accessible during reactor operation. Each of these categories (inaccessible and accessible) may be inspected independently according to the schedule determined by Table 3.7-9. The visual inspection interval for each type of snubber shall be determined based upon the criteria provided in Table 3.7-9 and the first inspection interval determined using this criteria shall be based upon the previous inspection interval as established by the requirements in effect before Amendment No 156.

b. Visual Inspection Acceptance Criteria

Visual inspections shall verify (1) that there are no visible indications of damage or impaired OPERABILITY, (2) attachments to the foundation or supporting structure are secure, and (3) in those locations where snubber movement can be manually induced without disconnecting the snubber, that the snubber has freedom of movement and is not frozen up. Snubbers which appear inoperable as a result of visual inspections shall be classified as unacceptable and may be reclassified as acceptable for the purpose of establishing the next visual inspection interval, providing that (1) the cause of the rejection is clearly established and remedied for that

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LA.1

*

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

particular snubber and for other snubbers that may be generically susceptible; and (2) the affected snubber is functionally tested in the as-found condition and determined OPERABLE per Specifications 4.7.7.1.d. All snubbers found connected to an inoperable common hydraulic fluid reservoir shall be counted as unacceptable for determining the next inspection interval. A review and evaluation shall be performed and documented to justify continued operation with an unacceptable snubber. If continued operation cannot be justified, the snubber shall be declared inoperable and the ACTION requirements shall be met.

c. Functional Tests

At least once per 24 months during shutdown, a representative sample (14%) of the total of each type of snubber in use in the plant shall be functionally tested either in place or in a bench test. For each snubber that does not meet the functional test acceptance criteria of Specification 4.7.7.1.d an additional 10% of that type of snubber shall be functionally tested.

The representative sample selected for functional testing shall include the various configurations, operating environments and the range of size and capacity of snubbers. At least 25% of the snubbers in the representative sample shall include snubbers from the following three categories:

1. The first snubber away from each reactor vessel nozzle

2. Snubbers within 5 feet of heavy equipment (valve, pump, turbine, motor, etc.)

3. Snubbers within 10 feet of the discharge from a safety relief valve

Snubbers that are identified as "Especially Difficult to Remove" or in "High Radiation Zones During Shutdown" shall also be included in the representative sample.

In addition to the regular sample, snubbers which failed the previous functional test shall be retested during the next test period. If a spare snubber has been installed in place of a failed snubber, then both the failed snubber (if it is repaired and

* Permanent or other exemptions from functional testing for individual snubbers in these categories may be granted by the Commission only if a justifiable basis for exemption is presented and/or snubber life destructive testing was performed to qualify snubber operability for all design conditions at either the completion of their fabrication or at a subsequent date.

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LA.1

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

installed in another position) and the spare snubber shall be retested. Test results of these snubbers may not be included for the re-sampling.

If any snubber selected for functional testing either fails to lockup or fails to move, i.e., frozen in place, the cause will be evaluated and if caused by manufacturer or design deficiency all snubbers of the same design subject to the same defect shall be functionally tested. This testing requirement shall be independent of the requirements stated above for snubbers not meeting the functional test acceptance criteria.

For the snubber(s) found inoperable, an engineering evaluation shall be performed on the components which are supported by the snubber(s). The purpose of this engineering evaluation shall be to determine if the components supported by the snubber(s) were adversely affected by the inoperability of the snubber(s) in order to ensure that the supported component remains capable of meeting the designed service.

d. Hydraulic Snubbers Functional Test Acceptance Criteria

The hydraulic snubber functional test shall verify that:

1. Activation (restraining action) is achieved within the specified range of velocity or acceleration in both tension and compression.

2. Snubber bleed, or release rate, where required, is within the specified range in compression or tension. For snubbers specifically required to not displace under continuous load, the ability of the snubber to withstand load without displacement shall be verified.

e. Snubber Service Life Monitoring

A record of the service life of each snubber, the date at which the designated service life commences and the installation and maintenance records on which the designated service life is based shall be maintained as required by Specification 6.10.2.

Concurrent with the first inservice visual inspection and at least once per 18 months thereafter, the installation and maintenance records for all safety-related snubbers shall be reviewed to verify that the indicated service life has not been exceeded or will not be exceeded prior to the next scheduled snubber service life review. If the indicated service life will be exceeded prior to the next scheduled snubber service life review, the snubber service life shall be reevaluated or the snubber shall be replaced or reconditioned so as to extend its service life beyond the date of the next scheduled service life review. This reevaluation, replacement or reconditioning shall be indicated in the records.

CTS 3/4.7.7

LA.1

TABLE 3.7-9

SNUBBER VISUAL INSPECTION INTERVAL

NUMBER OF UNACCEPTABLE SNUBBERS

Population or Category (Notes 1 and 2)	Column A Extend Interval (Notes 3 and 6)	Column B Repeat Interval (Notes 4 and 6)	Column C Reduce Interval (Notes 5 and 6)
1	0	0	1
80	0	0	2
100	0	1	4
150	0	3	8
200	2	5	13
300	5	12	25
400	8	18	36
500	12	24	48
750	20	40	78
1000 or greater	29	56	109

Note 1: The next visual inspection interval for a snubber population or category size shall be determined based upon the previous inspection interval and the number of unacceptable snubbers found during that interval. Snubbers may be categorized, based upon their accessibility during power operation, as accessible or inaccessible. These categories may be examined separately or jointly. However, the licensee must make and document that decision before any inspection and shall use that decision as the basis upon which to determine the next inspection interval for that category.

Note 2: Interpolation between population or category sizes and the number of unacceptable snubbers is permissible. Use next lower integer for the value of the limit for Columns A, B, or C if that integer includes a fractional value of unacceptable snubbers as determined by interpolation.

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LA.1

Table 3.7-9 (Continued)

Note 3: If the number of unacceptable snubbers is equal to or less than the number in Column A, the next inspection interval may be twice the previous interval but not greater than 48 months.

Note 4: If the number of unacceptable snubbers is equal to or less than the number in Column B but greater than the number in Column A, the next inspection interval shall be the same as the previous interval.

Note 5: If the number of unacceptable snubbers is equal to or greater than the number in Column C, the next inspection shall be two-thirds of the previous interval. However, if the number of unacceptable snubbers is less than the number in Column C but greater than the number in Column B, the next interval shall be reduced proportionally by interpolation, that is, the previous interval shall be reduced by a factor that is one-third of the ratio of the difference between the number of unacceptable snubbers found during the previous interval and the number in Column B to the difference in the numbers in Columns B and C.

Note 6: The provisions of Specification 4.0.2 are applicable for all inspection intervals up to and including 48 months.

CTS 3/4.7.8

R.1

PLANT SYSTEMS

3/4.7.8 SEALED SOURCE CONTAMINATION

LIMITING CONDITION FOR OPERATION

3.7.8.1 Each sealed source containing radioactive material either in excess of 100 microcuries of beta and/or gamma emitting material or 5 microcuries of alpha emitting material, shall be free of ≥ 0.005 microcuries of removable contamination.

APPLICABILITY: At all times.

ACTION:

a. Each sealed source with removable contamination in excess of the above limits shall be immediately withdrawn from use and:

 1. Either decontaminated and repaired, or

 2. Disposed of in accordance with Commission Regulations.

b. The provisions of Specification 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.8.1.1 Test Requirements - Each sealed source shall be tested for leakage and/or contamination by:

a. The licensee, or

b. Other persons specifically authorized by the Commission or an Agreement State.

The test method shall have a detection sensitivity of at least 0.005 microcuries per test sample.

4.7.8.1.2 Test Frequencies - Each category of sealed sources shall be tested at the frequency described below.

a. Sources in use (excluding startup sources and fission detectors previously subjected to core flux) - At least once per six months for all sealed sources containing radioactive materials.

CTS 3/4.7.8

R.1

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

1. With a half-life greater than 30 days (excluding Hydrogen 3), and

2. In any form other than gas.

b. Stored sources not in use - Each sealed source and fission detector shall be tested prior to use or transfer to another licensee unless tested within the previous six months. Sealed sources and fission detectors transferred without a certificate indicating the last test date shall be tested prior to being placed into use.

c. Startup sources and fission detectors - Each sealed startup source and fission detector shall be tested within 31 days prior to being subjected to core flux or installed in the core and following repair or maintenance to the source.

4.7.8.1.3 Reports - A report shall be prepared and submitted to the Commission on an annual basis if sealed source or fission detector leakage tests reveal the presence of ≥ 0.005 microcuries of removable contamination.

ITS 3.8.1

A.1

ITS

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

LCO 3.8.1 — 3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE: — LA.1

a. Two ~~physically independent~~ qualified circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two ~~separate and independent~~ diesel generators, each with: — LA.1

SR 3.8.1.4 — 1. A ~~separate~~ day fuel tank containing a minimum of ~~70~~ 101.4 gallons of fuel, — A.12

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and — See ITS 3.8.3

Add proposed LCO 3.8.1.c and d — A.2

3. ~~A separate fuel transfer pump.~~ — LA.1

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed Applicability Note and ITS ACTIONS A and B for Unit 1 AC Sources — M.2

ACTION:

ACTION A — a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least ~~two~~ one offsite circuit~~s~~ and ~~two diesel generators~~ to OPERABLE status within 72 hours ~~or be in at least HOT STANDBY within the next 6 hours and in COLD~~
ACTION F — SHUTDOWN within the following 30 hours.

Add proposed Required Action A.3 second Completion Time

ACTION B — b. With a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within ~~8~~ 12 hours, unless the absence of any potential common mode failure for the remaining diesel generator is ~~demonstrated; restore diesel generator~~s to OPERABLE status within 72 hours ~~or be in at least HOT~~
ACTION F — ~~STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.~~ ~~At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.~~

L.21

Add proposed Required Action B.4 second Completion Time

L.2

*Tanks are separate between diesels but shared between Units 1 and 2. — See ITS 3.8.3

ITS 3.8.3

ITS

A.1

3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.1 A.C. SOURCES

OPERATING

LIMITING CONDITION FOR OPERATION

Add proposed LCO 3.8.3 — A.2

3.8.1.1 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. Two physically independent circuits between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two separate and independent diesel generators, each with:

1. A separate day fuel tank containing a minimum of 70 gallons of fuel,

See ITS 3.8.1

LA.1

2. A separate fuel storage system* containing a minimum indicated volume of 46,000 gallons of fuel, and

See ITS 3.8.1

3. A separate fuel transfer pump.

When associated DG is required to be OPERABLE — A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

Add proposed ACTIONS A and D and ACTIONS Note for fuel oil storage tank volume — L.1

ACTION:

a. With an offsite circuit of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least two offsite circuits and two diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

b. With a diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the A.C. offsite sources by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; restore diesel generators to OPERABLE status within 72 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. At the number of failures for the inoperable diesel indicated in Table 4.8-1 perform the Additional Reliability Actions prescribed in Table 4.8-1.

See ITS 3.8.1

*Tanks are separate between diesels but shared between Units 1 and 2. — LA.1

A.1

ITS

ELECTRICAL POWER SYSTEMS

ACTION (Continued)

Add proposed Required Action D Note — A.3

ACTION D / Required Action A.1 / Required Actions B.3.1 and B.3.2 / ACTION D / ACTION F

c. With one offsite circuit and one diesel generator of the above required A.C. electrical power sources inoperable, demonstrate the OPERABILITY of the remaining A.C. offsite source by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter, and if the diesel generator became inoperable due to any cause other than an inoperable support system, an independently testable component, or preplanned preventive maintenance or testing, demonstrate the OPERABILITY of the remaining OPERABLE diesel generator by performing Surveillance Requirement 4.8.1.1.2.a.4 within 8 hours, unless the absence of any potential common mode failure for the remaining diesel generator is demonstrated; restore at least one of the inoperable sources to OPERABLE status within 12 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. With the diesel generator restored to OPERABLE status, follow ACTION Statement a.* With the offsite circuit restored to OPERABLE status, follow ACTION Statement b.*

12 — L.21

L.1

and MODE 5 within 36 hours — M.3

ACTION C / ACTION F

d. With two of the above required offsite A.C. circuits inoperable, restore at least one of the inoperable offsite sources to OPERABLE status within 24 hours or be in at least HOT STANDBY within the next 6 hours. With only one offsite source restored, follow ACTION Statement a.* — L.1

ACTION E / Required Action B.1 / ACTION E / ACTION F

e. With two of the above required diesel generators inoperable, demonstrate the OPERABILITY of two offsite A.C. circuits by performing Surveillance Requirement 4.8.1.1.1.a within 1 hour and at least once per 8 hours thereafter; restore at least one of the inoperable diesel generators to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. With one diesel generator unit restored, follow ACTION Statement b* or c.* — L.1

*The ACTION statement time shall be based upon the time associated with the component inoperability, and is not reset when exiting this ACTION statement. — L.1

SURVEILLANCE REQUIREMENTS

Add proposed ACTION G — A.4

4.8.1.1.1 Each of the above required independent circuits between the offsite transmission network and the onsite Class 1E distribution system shall be:

SR 3.8.1.1 a. Determined OPERABLE at least once per 7 days by verifying correct breaker alignments and indicated power availability, and

Add proposed Note 1 to SR 3.8.1.9 — A.9

24 — L.3

SR 3.8.1.9 b. Demonstrated OPERABLE at least once per 18 months by transferring the unit power source automatically from the normal auxiliary source to the preferred reserve source and by transferring manually to the alternate reserve source.

ITS 3.8.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

a. ~~In accordance with the frequency specified in Table 4.8-1~~ ~~on a STAGGERED TEST BASIS by:~~ L.2 L.4

SR 3.8.1.4 1. Verifying the fuel level in the day tank, every 31 days L.5

2. Verifying the fuel level in the fuel storage tank, See ITS 3.8.3

SR 3.8.1.6 3. Verifying that the fuel transfer pump system can be started and that it transfers fuel from the storage system to the day tank, automatically 92 days LA.1 M.4

SR 3.8.1.2 SR 3.8.1.8 SR 3.8.1.16 4. Verifying that the diesel starts from standby conditions and achieves in less than or equal to 10 seconds, voltage = 4160±420 V, and frequency = 60±1.2 Hz,* every 31 days steady state L.2 voltage ≥ 3740 V and frequency ≥ 58.8 Hz L.18 L.19 M.5

SR 3.8.1.3 5. Verifying the diesel is synchronized and loaded and operates for greater than or equal to 60 minutes at a load of 3500 kw**, and ≥ 3150 kW and ≤ L.6

L.2 every 31 days

6. ~~Verifying that the diesel generator is aligned to provide standby power to the associated emergency busses.~~ LA.2

b. By removing accumulated water***: See ITS 3.8.3

SR 3.8.1.5 1) From the day tank at least once per 31 days ~~and after each occasion when the diesel is operated for greater than 1 hour,~~ and L.7

2) From the storage tanks at least once per 31 days. See ITS 3.8.3

c. By sampling new fuel oil*** in accordance with the applicable guidelines of ASTM D4057-81 prior to adding new fuel to the storage tanks and See ITS 5.5

1) By verifying, in accordance with the tests specified in ASTM D975-81 and prior to adding the new fuel to the storage tanks, that the sample has:

Add proposed SR 3.8.1.7 M.6

Add proposed Note 1 to SR 3.8.1.2, Note to SR 3.8.1.8, and Note 2 to SR 3.8.1.16 A.5

SR 3.8.1.8 * The diesel generator start (10 seconds) from standby conditions shall be performed at least once per 184 days in these surveillance tests. All other engine starts for the purpose of this surveillance testing and compensatory action may be at reduced acceleration rates as recommended by the manufacturer ~~so that mechanical stress and wear on the diesel engine are minimized~~. LA.5

Note 2 to SR 3.8.1.2 Add proposed Note 1 to SR 3.8.1.3 A.6

Note 2 to SR 3.8.1.3 ** Momentary load transients do not invalidate this test.

Add proposed Notes 3 and 4 to SR 3.8.1.3 M.7

*** The actions to be taken should any of the properties be found outside of specified limits are defined in the Bases. See ITS 3.8.3

ITS 3.8.3

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

L.2

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE:

L.3

a. ~~In accordance with the frequency specified in Table 4.8-1~~ ~~on a STAGGERED TEST BASIS by~~: See ITS 3.8.1

1. Verifying the fuel level in the day tank,

SR 3.8.3.1 2. Verifying the fuel level in the fuel storage tank, every 31 days L.2

3. Verifying that the fuel transfer pump can be started and that it transfers fuel from the storage system to the day tank,

4. Verifying that the diesel starts from standby conditions and achieves in less than or equal to 10 seconds, voltage = 4160±420 V, and frequency = 60±1.2 Hz,* See ITS 3.8.1

5. Verifying the diesel is synchronized and loaded and operates for greater than or equal to 60 minutes at a load of 3500 kw**, and

6. Verifying that the diesel generator is aligned to provide standby power to the associated emergency busses.

b. By removing accumulated water ~~***~~ A.3

1) From the day tank at least once per 31 days and after each occasion when the diesel is operated for greater than 1 hour, and See ITS 3.8.1

SR 3.8.3.3 2) From the storage tanks at least once per 31 days. Add proposed SR 3.8.3.2 A.4

c. By sampling new fuel oil ~~***~~ in accordance with the applicable guidelines of ASTM D4057-81 prior to adding new fuel to the storage tanks and M.1

1) By verifying, in accordance with the tests specified in ASTM D975-81 and prior to adding the new fuel to the storage tanks, that the sample has: See ITS 5.5

* The diesel generator start (10 seconds) from standby conditions shall be performed at least once per 184 days in these surveillance tests. All other engine starts for the purpose of this surveillance testing and compensatory action may be at reduced acceleration rates as recommended by the manufacturer so that mechanical stress and wear on the diesel engine are minimized. See ITS 3.8.1

** Momentary load transients do not invalidate this test.

*** ~~The actions to be taken should any of the properties be found outside of specified limits are defined in the Bases.~~ A.3

Add proposed ACTION C

Add proposed ACTION D for accumulated water

M.1

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

4.8.1.1.2 Each diesel generator shall be demonstrated OPERABLE: (See ITS 3.8.1 and ITS 3.8.3)

a. In accordance with the frequency specified in Table 4.8-1 on a STAGGERED TEST BASIS by:

1. Verifying the fuel level in the day tank, (See ITS 3.8.1)

2. Verifying the fuel level in the fuel storage tank, (See ITS 3.8.3)

3. Verifying that the fuel transfer pump can be started and that it transfers fuel from the storage system to the day tank,

4. Verifying that the diesel starts from standby conditions and achieves in less than or equal to 10 seconds, voltage = 4160±420 V, and frequency = 60±1.2 Hz,* (See ITS 3.8.1)

5. Verifying the diesel is synchronized and loaded and operates for greater than or equal to 60 minutes at a load of 3500 kw**, and

6. Verifying that the diesel generator is aligned to provide standby power to the associated emergency busses. (See ITS 3.8.1 and ITS 3.8.3)

b. By removing accumulated water***:

1) From the day tank at least once per 31 days and after each occasion when the diesel is operated for greater than 1 hour, and (See ITS 3.8.1)

2) From the storage tanks at least once per 31 days. (See ITS 3.8.3)

5.5.11.a c. By sampling new fuel oil**** in accordance with the applicable guidelines of ASTM D4057-81 prior to adding new fuel to the storage tanks and

5.5.11.a 1) By verifying, in accordance with the tests specified in ASTM D975-81 and prior to adding the new fuel to the storage tanks, that the sample has: LA.6

Add proposed ITS 5.5.11 generic program statement A.10

* The diesel generator start (10 seconds) from standby conditions shall be performed at least once per 184 days in these surveillance tests. All other engine starts for the purpose of this surveillance testing and compensatory action may be at reduced acceleration rates as recommended by the manufacturer so that mechanical stress and wear on the diesel engine are minimized. (See ITS 3.8.1)

** Momentary load transients do not invalidate this test.

*** The actions to be taken should any of the properties be found outside of specified limits are defined in the Bases. (See ITS 3.8.3)

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

a) A kinematic viscosity of greater than or equal to 1.9 centistokes but less than or equal to 4.1 centistokes at 40°C (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6 but less than or equal to 40.1), if gravity was not determined by comparison with supplier's certification.

b) A flash point equal to or greater than 125°F.

2) By verifying, in accordance with the test specified in ASTM D1298-80 and prior to adding the new fuel to the storage tanks, that the sample has either an API gravity of greater than or equal to 30 degrees but less than or equal to 40 degrees at 60°F or an absolute specific gravity at 60/60°F of greater than or equal to 0.82 but less than or equal to 0.88, or an API gravity of within 0.3 degrees at 60°F when compared to the supplier's certificate or a specific gravity of within 0.0016 at 60/60°F when compared to the supplier's certificate. See ITS 5.5

3) By verifying, in accordance with the test specified in ASTM D4176-82 and prior to adding new fuel to the storage tanks, that the sample has a clear and bright appearance with proper color. See ITS 3.8.3

4) By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are within the appropriate limits when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D2622-82. A.10

d. At least once per 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83, and verifying that total particulate contamination is less than 10 mg/liter when tested in accordance with ASTM D2276-83, Method A*. L.8

SR 3.8.1.10 through SR 3.8.1.19 e. At least once per ~~18~~ 24 months ~~during shutdown~~ by: L.3

~~1. Subjecting the diesel engine to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.~~ LA.3

* The actions to be taken should any of the properties be found outside of the specified limits are defined in the Bases. See ITS 3.8.3

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

a) A kinematic viscosity of greater than or equal to 1.9 centistokes but less than or equal to 4.1 centistokes at 40°C (alternatively, Saybolt viscosity, SUS at 100°F of greater than or equal to 32.6 but less than or equal to 40.1), if gravity was not determined by comparison with supplier's certification.

b) A flash point equal to or greater than 125°F.

2) By verifying, in accordance with the test specified in ASTM D1298-80 and prior to adding the new fuel to the storage tanks, that the sample has either an API gravity of greater than or equal to 30 degrees but less than or equal to 40 degrees at 60°F or an absolute specific gravity at 60/60°F of greater than or equal to 0.82 but less than or equal to 0.88, or an API gravity of within 0.3 degrees at 60°F when compared to the supplier's certificate or a specific gravity of within 0.0016 at 60/60°F when compared to the supplier's certificate.

See ITS 5.5

3) By verifying, in accordance with the test specified in ASTM D4176-82 and prior to adding new fuel to the storage tanks, that the sample has a clear and bright appearance with proper color.

4) By verifying within 31 days of obtaining the sample that the other properties specified in Table 1 of ASTM D975-81 are within the appropriate limits when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D2622-82.

d. At least once per 31 days by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83, and verifying that total particulate contamination is less than 10 mg/liter when tested in accordance with ASTM D2276-83, Method A~~*~~.

M.1

e. At least once per 18 months, during shutdown, by:

1. Subjecting the diesel engine to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service,

See ITS 3.8.1

Add proposed ACTION B

M.1

~~* The actions to be taken should any of the properties be found outside of the specified limits are defined in the Bases.~~

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

5.5.11.a.2 a) A kinematic viscosity ~~of greater than or equal to 1.9 centistokes but less than or equal to 4.1 centistokes at 40°C~~ (alternatively, Saybolt viscosity, ~~SUS at 100°F of greater than or equal to 32.6 but less than or equal to 40.1~~), ~~if gravity was not determined by comparison with supplier's certification.~~ within limits LA.6

5.5.11.a.2 b) A flash point ~~equal to or greater than 125°F~~ within limits

5.5.11.a.1 2) By verifying, ~~in accordance with the test specified in ASTM D1298-80 and~~ prior to adding the new fuel to the storage tanks, that the sample has either an API gravity ~~of greater than or equal to 30 degrees but less than or equal to 40 degrees at 60°F~~ or an absolute specific gravity ~~at 60/60°F of greater than or equal to 0.82 but less than or equal to 0.88~~, or an API gravity ~~of within 0.3 degrees at 60°F when compared to the supplier's certificate~~ or a specific gravity ~~of within 0.0016 at 60/60°F when compared to the supplier's certificate.~~ within limits LA.6

5.5.11.a.3 3) By verifying, ~~in accordance with the test specified in ASTM D4176-82 and~~ prior to adding new fuel to the storage tanks, that the sample has a clear and bright appearance with proper color.

of new fuel oil, other than those addressed in Specification 5.5.11.a above,

L.5

5.5.11.b 4) By verifying within 31 days ~~of obtaining the sample~~ that the other properties ~~specified in Table 1 of ASTM D975-81~~ are within the appropriate limits ~~when tested in accordance with ASTM D975-81 except that the analysis for sulfur may be performed in accordance with ASTM D2622-82.~~

LA.6

5.5.11c d. At least once per 31 days ~~by obtaining a sample of fuel oil from the storage tanks in accordance with ASTM D2276-83~~, and verifying that total particulate contamination is less than 10 mg/liter when tested in accordance with ASTM D2276~~-83~~, Method A~~*~~

See ITS 3.8.3

~~e. At least once per 18 months, during shutdown, by:~~

~~1. Subjecting the diesel engine to an inspection in accordance with procedures prepared in conjunction with its manufacturer's recommendations for this class of standby service.~~

See ITS 3.8.1

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Diesel Fuel Oil Testing Program test Frequencies.

A.10

~~* The actions to be taken should any of the properties be found outside of the specified limits are defined in the Bases.~~

See ITS 3.8.3

ITS 3.8.1

ITS

A.1

M.8 M.5 LA.4 L.9 L.6 M.8 L.10 M.1 A.5 L.11

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued) Add proposed Note 2 to SR 3.8.1.10

SR 3.8.1.10 — 2. Verifying the generator capability to reject a load greater than or equal to 600 kw while maintaining voltage at 4160 ± 420 volts and frequency at 60 ± 1.2 Hz. [single largest post-accident load] [the frequency ≤ 64.4 Hz and within 2 seconds]

Add proposed Note 2 to SR 3.8.1.11

SR 3.8.1.11 — 3. Verifying the generator capability to reject a load of 3500 kw without exceeding 75% of the difference between nominal speed and the overspeed trip setpoint. [≥ 3150 kW and ≤] [without tripping the DG] [voltage is maintained ≤ 5000 V]

Add proposed Note 1 to SR 3.8.1.12

SR 3.8.1.12 — 4. Simulating a loss of offsite power by itself, and: [actual or]

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying that the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected shutdown loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the shutdown loads. After load sequencing is completed, the steady state voltage and frequency of the emergency busses shall be maintained at 4160 ± 420 volts and 60 ± 1.2 Hz during the test.

M.5 A.5

Add proposed Note 1 to SR 3.8.1.13

SR 3.8.1.13 — 5. Verifying that, on a Safety Injection actuation test signal (without loss of offsite power), the diesel generator starts on the auto-start signal and operates on standby for greater than or equal to 5 minutes. [actual or] [Add SR 3.8.1.13 parts a, b, d, and e]

L.11 M.9

Add proposed Note 1 to SR 3.8.1.19

A.5

SR 3.8.1.19 — 6. Simulating a loss of offsite power in conjunction with a Safety Injection actuation test signal, and by: [actual or]

L.11

a) Verifying de-energization of the emergency busses and load shedding from the emergency busses.

b) Verifying the diesel starts on the auto-start signal, energizes the emergency busses with permanently connected loads within 10 seconds, energizes the auto-connected emergency (accident) loads through the load sequencer and operates for greater than or equal to 5 minutes while its generator is loaded with the emergency loads. After load sequencing is completed, the steady state voltage and frequency of the emergency busses shall be 4160 ± 420 volts and 60 ± 1.2 Hz. The voltage and frequency shall be maintained within these limits for the remainder of this test, and

M.5

ITS 3.8.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

L.6

SURVEILLANCE REQUIREMENTS (Continued)

A.11

SR 3.8.1.14 — c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus ~~and~~/or Safety Injection actuation signal.

L.12 — Add proposed Note 3 to SR 3.8.1.15

≥ 3150 kW and ≤

SR 3.8.1.15
SR 3.8.1.16

7. Verifying that the diesel generator operates at a power factor of less than or equal to 0.86 for at least 8 hours.* During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 8-hour test perform Surveillance Requirement 4.8.1.1.2.a.4 (at existing conditions).**

A.5 — Add proposed Note 2 to SR 3.8.1.16

8. ~~Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.~~ — L.13

SR 3.8.1.17

9. Verifying the diesel generator's capability to:

a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

b) Transfer its loads to the offsite power source, and

c) Be restored to its standby status.

10. ~~Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:~~

~~a) Returning the diesel generator to standby operation, and~~

~~b) Verifying the emergency loads are serviced by offsite power.~~

L.20

SR 3.8.1.18

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

SR 3.8.1.20

f. At least once per 10 years by:

1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

See ITS 3.8.3

SR 3.8.1.15 Note 1, SR 3.8.1.16 Note 1 — * Momentary transients outside the load and power factor range do not invalidate this test.

SR 3.8.1.16 Note 1 — ** If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 8-hour test. Instead, the diesel generator may be operated at 3500 kw for 2 hours ~~or until operating temperature has stabilized~~.

≥ 3150 kW and ≤ — L.6

A.8

ITS 3.8.3

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c) Verifying that all automatic diesel generator trips, except engine overspeed and generator differential, are automatically bypassed upon loss of voltage on the emergency bus and/or Safety Injection actuation signal.

7. Verifying that the diesel generator operates at a power factor of less than or equal to 0.86 for at least 8 hours.* During this test the diesel generator shall be loaded to 3500 kw. Within 5 minutes after completing this 8-hour test, perform Surveillance Requirement 4.8.1.1.2.a.4 (at existing conditions).**

8. Determine that the auto-connected loads to each diesel generator do not exceed 3500 kw.

9. Verifying the diesel generator's capability to:

   a) Synchronize with the offsite power source while the generator is loaded with its emergency loads upon a simulated restoration of offsite power.

   b) Transfer its loads to the offsite power source, and

   c) Be restored to its standby status.

10. Verifying that with the diesel generator operating in a test mode while connected to its test load, a simulated Safety Injection signal overrides the test mode by:

   a) Returning the diesel generator to standby operation, and

   b) Verifying the emergency loads are serviced by offsite power.

11. Verifying that the automatic sequence timing relays are OPERABLE with each load sequence time within plus or minus 5% of its required value and that each load is sequenced on within the design allowable time limit.

See ITS 3.8.1

f. At least once per 10 years by:

   1) Employing one of the following cleaning methods to clean the fuel oil storage tanks:

      a) Drain each fuel oil storage tank, remove the accumulated sediment, and clean the tank, or

LA.2

* Momentary transients outside the load and power factor range do not invalidate this test.

** If Surveillance Requirement 4.8.1.1.2.a.4 is not satisfactorily completed, it is not necessary to repeat the preceding 8-hour test. Instead, the diesel generator may be operated at 3500 kw for 2 hours or until operating temperature has stabilized.

See ITS 3.8.1

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ITS 3.8.1

ITS

A.1

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

b) Agitate the fuel oil in the storage tank while pumping the oil from the bottom of the tank through a 5-micron filter, and back to the opposite end of the tank. Three successive samples shall be taken and analyzed according to ASTM D2276-83. If the contaminant level in any of the samples is greater than 10 mg per liter, the agitation, filtration, and sampling processes shall be repeated. If the contaminant level remains above 10 mg per liter after 3 iterations, the draining and cleaning method described in surveillance requirement 4.8.1.1.2.f.1.a shall be employed.

2) Performing a precision leak detection test to verify that the leakage rate from the fuel oil system is less than or equal to .05 gallons per hour.

See ITS 3.8.3

A.5

Add proposed Note to SR 3.8.1.20

L.14

SR 3.8.1.20 3) Starting both diesel generators simultaneously, ~~during shutdown~~, ~~and verifying that both diesel generators~~ accelerate to at least ~~514 RPM~~ in less than or equal to 10 seconds.*

Add proposed voltage limit — M.10

58.8 Hz — L.15

Add proposed SR Notes 1 and 2

Add proposed SR 3.8.1.21 — M.11

~~*Shall be performed after any modifications which could affect diesel generator interdependence.~~ L.16

ITS 3.8.3

A.1

ITS

ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

b) ~~Agitate the fuel oil in the storage tank while pumping the oil from the bottom of the tank through a 5-micron filter, and back to the opposite end of the tank. Three successive samples shall be taken and analyzed according to ASTM D2276-83. If the contaminant level in any of the samples is greater than 10 mg per liter, the agitation, filtration, and sampling processes shall be repeated. If the contaminant level remains above 10 mg per liter after 3 iterations, the draining and cleaning method described in surveillance requirement 4.8.1.1.2.f.1.a shall be employed.~~

2) ~~Performing a precision leak detection test to verify that the leakage rate from the fuel oil system is less than or equal to .05 gallons per hour.~~

LA.2

3) Starting both diesel generators simultaneously, during shutdown, and verifying that both diesel generators accelerate to at least 514 RPM in less than or equal to 10 seconds.*

See ITS 3.8.1

*Shall be performed after any modifications which could affect diesel generator interdependence.

See ITS 3.8.1

ITS 3.8.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

Number of Failures in Last 20 Valid Tests*	Test Frequency
Less than or equal to 1	At least once per 31 days
Greater than or equal to 2	At least once per 7 days**

L.2

* Criteria for determining number of failures and valid tests shall be in accordance with Regulatory Position C.2.1 of Regulatory Guide 1.9, Revision 3, where the number of tests and failures is determined on a per diesel generator basis. For the purposes of this test schedule, only valid tests conducted after the OL issuance date shall be included in the computation of the "last 20 valid tests."

** This test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one or less.

L.2

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ITS 3.8.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

TABLE 4.8-1

DIESEL GENERATOR TEST SCHEDULE

Number of Failures in Last 20 Valid Tests*	Test Frequency
Less than or equal to 1	At least once per 31 days
Greater than or equal to 2	At least once per 7 days**

L.2

* Criteria for determining number of failures and valid tests shall be in accordance with Regulatory Position C.2.1 of Regulatory Guide 1.9, Revision 3, where the number of tests and failures is determined on a per diesel generator basis. For the purposes of this test schedule, only valid tests conducted after the OL issuance date shall be included in the computation of the "last 20 valid tests."

** This test frequency shall be maintained until seven consecutive failure free demands have been performed and the number of failures in the last 20 valid demands has been reduced to one or less.

L.2

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ITS 3.8.2

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SHUTDOWN

LIMITING CONDITION FOR OPERATION

LCO 3.8.2 — 3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE: (M.1)

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. One diesel generator with: (M.2)

SR 3.8.2.1 — 1. A day fuel tank containing a minimum of ~~70~~ 101.4 gallons of fuel, (A.5)

~~2. A fuel storage system containing a minimum indicated volume of 46,000 gallons of fuel, and~~ (See ITS 3.8.3) (L.5)

~~3. A fuel transfer pump.~~ (LA.1) (A.4) (M.3)

Add proposed LCO 3.8.2.c

APPLICABILITY: MODES 5 and 6. During movement of irradiated fuel assemblies in the containment, auxiliary building, and Unit 1 containment (M.3)

ACTION: Add proposed ACTIONS Note (M.3) Add proposed ACTION A Note (A.2) Add proposed Required Action A.1 (L.4)

ACTIONS A and B — With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes ~~except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.~~ (L.1) (M.3)

Add proposed Required Actions A.2.2 and B.2 — additions that could result in loss of required SDM or boron concentration

SURVEILLANCE REQUIREMENTS — Add proposed Required Actions A.2.4 and B.4 (M.4)

SR 3.8.2.1 — 4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for requirement 4.8.1.1.2.a.5. (L.2) (L.3)

Note to SR 3.8.2.1 — Add proposed SR 3.8.2.1 exceptions (L.6)

~~Commencing in 1999 during the extended shutdown initiated in 1997, the 18-month surveillance requirements 4.8.1.1.2.e.4.a) and b); 4.8.1.1.2.e.6.a), b) and c); 4.8.1.1.2.e.8; 4.8.1.1.2.e.9.a), b) and c); 4.8.1.1.2.e.10.a) and b); and 4.8.1.1.2.e.11, may be delayed one time until just prior to the first entry into MODE 4 following the shutdown.~~ (A.3)

Add SR 3.8.2.1 for Unit 1 AC Source (M.5)

ITS 3.8.3

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SHUTDOWN

Add proposed LCO 3.8.3 — A.2

LIMITING CONDITION FOR OPERATION

LCO 3.8.3 3.8.1.2 ~~As a minimum, the following A.C. electrical power sources shall be OPERABLE:~~

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. One diesel generator with:

1. ~~A day fuel tank containing a minimum of 70 gallons of fuel.~~

See ITS 3.8.2

SR 3.8.3.1 2. A fuel storage system containing a minimum indicated volume of 46,000 gallons of fuel, and

3. A fuel transfer pump. — See ITS 3.8.2

APPLICABILITY: ~~MODES 5 and 6~~ When associated DG is required to be OPERABLE — A.2

ACTION: Add proposed ACTIONS A and D and ACTIONS Note for fuel oil storage tank volume — L.1

With less than the above minimum required A.C. electrical power sources OPERABLE, suspend all operations involving CORE ALTERATIONS or positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

See ITS 3.8.2

SURVEILLANCE REQUIREMENTS

SR 3.8.3.1, SR 3.8.3.2, SR 3.8.3.3 4.8.1.2 The above required A.C. electrical power sources shall be demonstrated OPERABLE by the performance of each of the Surveillance Requirements of 4.8.1.1.1 and 4.8.1.1.2 except for requirement 4.8.1.1.2.a.5.

See CTS markup pages 9 of 14 through 14 of 14

Commencing in 1999 during the extended shutdown initiated in 1997, the 18-month surveillance requirements 4.8.1.1.2.e.4.a) and b); 4.8.1.1.2.e.6.a), b) and c); 4.8.1.1.2.e.8; 4.8.1.1.2.e.9.a), b) and c); 4.8.1.1.2.e.10.a) and b); and 4.8.1.1.2.e.11, may be delayed one time until just prior to the first entry into MODE 4 following the shutdown.

See ITS 3.8.2

ITS 3.8.7

A.1

ITS

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 The following A.C. electrical busses shall be OPERABLE and energized with tie breakers open between redundant busses: — See ITS 3.8.9

4160-volt Emergency Bus #T 21A & T 21B
4160-volt Emergency Bus #T 21C & T 21D
600-volt Emergency Bus #21A & 21B
600-volt Emergency Bus #21C & 21D
*120-volt A.C. Vital Bus #Channel I
*120-volt A.C. Vital Bus #Channel II
*120-volt A.C. Vital Bus #Channel III
*120-volt A.C. Vital Bus #Channel IV

See ITS 3.8.9

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

ACTION: One — Add proposed Required Action A.1 Note — 24 — L.1

ACTION A — With less than the above complement of A.C. busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY

ACTION C — within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Add proposed ACTION B — M.1

SURVEILLANCE REQUIREMENTS

SR 3.8.7.1 — 4.8.2.1 The specified A.C. busses shall be determined OPERABLE and energized from A.C. sources with tie breakers open between redundant busses at least once per 7 days by verifying correct breaker alignment and indicated power availability. — M.2

LCO 3.8.7 — Train A and B — s shall be OPERABLE — LA.1

*Energized from its associated inverter connected to a DC bus.

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ITS 3.8.9

A.1

ITS

ELECTRICAL POWER SYSTEMS

3/4.8.2 ONSITE POWER DISTRIBUTION SYSTEMS

A.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

power distribution subsystem — LA.2

LCO 3.8.9 — 3.8.2.1 The following A.C. electrical ~~busses~~ shall be OPERABLE ~~and energized with tie breakers open between redundant busses~~: — LA.1

LCO 3.8.9.a
- 4160-volt Emergency Bus #T 21A & T 21B
- 4160-volt Emergency Bus #T 21C & T 21D
- 600-volt Emergency Bus #21A & 21B
- 600-volt Emergency Bus #21C & 21D

Train A and Train B AC distribution subsystems — LA.2

L.1

LCO 3.8.9.b
- *120-volt A.C. Vital Bus #Channel I
- *120-volt A.C. Vital Bus #Channel II
- *120-volt A.C. Vital Bus #Channel III
- *120-volt A.C. Vital Bus #Channel IV

Train A and Train B 120 VAC vital distribution — LA.2

Add proposed LCO 3.8.9.e — A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

A.3

ACTION:

Add proposed ACTION A Note

Add proposed Required Actions A.1 and B.1 second Completion Time — M.1

ACTIONS A and B — With less than the above complement of A.C. busses OPERABLE, restore the inoperable bus to OPERABLE status within 8 hours or be in at least HOT STANDBY

ACTION E — within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

A.2

Add proposed ACTION F

Add proposed ACTION G — M.2

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1 — 4.8.2.1 The specified A.C. busses shall be determined OPERABLE ~~and energized from A.C. sources with tie breakers open between redundant busses~~ at least once per 7 days by verifying correct breaker alignment and ~~indicated power availability~~. — LA.1

voltage — M.3

Add SR 3.8.9.1 for Unit 2 electrical power distribution subsystems — M.4

*Energized from its associated inverter connected to a DC bus. — See ITS 3.8.7

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ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

A.C. DISTRIBUTION SHUTDOWN

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, the following A.C. electrical busses shall be OPERABLE and energized:

1 - 4160-volt Emergency Bus, and

1 - 600-volt Emergency Bus, and

2 - *120-volt A.C. Vital Busses.

See ITS 3.8.10

A.3

APPLICABILITY: MODES 5 and 6. During movement of irradiated fuel assemblies in the containment, auxiliary building, and Unit 1 containment

A.2

ACTION: Add proposed ACTIONS NOTE

ACTION A With less than the above complement of A.C. busses OPERABLE and energized.

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity ~~changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2~~ additions that could result in loss of required SDM or boron concentration

L.1

b. Immediately initiate actions to restore the required A.C. electrical busses to OPERABLE status.

c. Immediately declare associated required residual heat removal loop(s) inoperable.

See ITS 3.8.10

SURVEILLANCE REQUIREMENTS

SR 3.8.8.1 4.8.2.2 The specified A.C. busses shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

M.1

LA.1

LCO 3.8.8 * ~~Energized~~ Two from its associated inverter~~s~~ ~~connected to a DC bus.~~ s shall be OPERABLE

ITS 3.8.10

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

M.1

A.C. DISTRIBUTION SHUTDOWN

LIMITING CONDITION FOR OPERATION

The necessary portions of the

LA.1

3.8.2.2 ~~As a minimum, the following~~ A.C. electrical ~~busses~~ shall be OPERABLE ~~and energized:~~

distribution subsystem

LA.2

~~1 - 4160-volt Emergency Bus, and~~
~~1 - 600-volt Emergency Bus, and~~
~~2 - 120-volt A.C. Vital Busses.~~

Unit 1 electrical power distribution subsystem requirements

A.3

APPLICABILITY: MODES 5 and 6.

During movement of irradiated fuel assemblies in the containment, auxiliary building, and Unit 1 containment

A.4

ACTION:

Add proposed ACTIONS Note

A.2

ACTION A

With less than the above complement of A.C. busses OPERABLE and energized.

Add proposed Required Action A.1

M.1

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity ~~changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.~~

L.1

additions that could result in loss of required SDM or boron concentration

b. Immediately initiate actions to restore the required A.C. electrical busses to OPERABLE status.

c. Immediately declare associated required residual heat removal loop(s) inoperable.

A.3

Add proposed ACTION B

SURVEILLANCE REQUIREMENTS

LA.1

SR 3.8.10.1 4.8.2.2 The specified A.C. busses shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and ~~indicated power availability*~~.

voltage

M.2

Add proposed SR 3.8.10.1 for Unit 1 electrical power distribution subsystem requirements

M.3

~~* Energized from its associated inverter connected to a DC bus.~~

See ITS 3.8.8

ITS 3.8.4

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LA.1

LIMITING CONDITION FOR OPERATION

electrical power subsystems

See ITS 3.8.9

LCO 3.8.4.a 3.8.2.3 The following D.C. ~~bus/trains~~ shall be energized and OPERABLE ~~with tie breakers between bus trains open~~:

See ITS 3.8.9

B TRAIN ~~AB~~ ~~consisting of 250-volt D.C. bus AB~~, ~~250-volt D.C. battery bank No. 2AB, and a full capacity charger, and~~ LA.1

See ITS 3.8.9

A TRAIN ~~CD~~ ~~consisting of 250-volt D.C. bus CD~~, ~~250-volt D.C. battery bank No. 2CD, and a full capacity charger.~~ LA.1

Add proposed LCO 3.8.4.c A.2

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION

a. With one 250-volt D.C. bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. See ITS 3.8.9

L.1

ACTIONS A and B

b. With one 250-volt D.C. battery ~~and/or its charger~~ inoperable, restore the inoperable battery and/or charger to OPERABLE status within ~~2 hours~~ or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

ACTION C

Add proposed ACTION E A.2

SURVEILLANCE REQUIREMENTS

Add proposed SR Notes 1 and 2 M.1

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability. See ITS 3.8.9

4.8.2.3.2 Each 250-volt battery bank and charger shall be demonstrated OPERABLE

SR 3.8.4.1 a. At least once per 7 days by verifying that:

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

2. The pilot cell specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200,

3. The pilot cell voltage is greater than or equal to 2.13 volts, and

See ITS 3.8.6

SR 3.8.4.1 4. The overall battery voltage is greater than or equal to ~~250 volts~~. to the minimum established float voltage L.5

Add proposed SR 3.8.4.4 M.1

ITS 3.8.6

A.1

ITS

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

Add proposed LCO 3.8.6 — A.2

3.8.2.3 The following D.C. bus trains shall be energized and OPERABLE with tie breakers between bus trains open:

See ITS 3.8.4 and 3.8.9

TRAIN AB consisting of 250-volt D.C. bus AB, 250-volt D.C. battery bank No. 2AB, and a full capacity charger, and

TRAIN CD consisting of 250-volt D.C. bus CD, 250-volt D.C. battery bank No. 2CD, and a full capacity charger.

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

ACTION

a. With one 250-volt D.C. bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. — See ITS 3.8.9

b. With one 250-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. — See ITS 3.8.4

Add proposed ACTIONS A, B, C, D, E, and F — L.1

SURVEILLANCE REQUIREMENTS

4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE and energized with tie breakers open at least once per 7 days by verifying correct breaker alignment and indicated power availability. — See ITS 3.8.9

4.8.2.3.2 Each 250-volt battery bank and charger shall be demonstrated OPERABLE — L.2

SR 3.8.6.2 a. At least once per ~~7~~ 31 days by verifying that:

1. ~~The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,~~ — L.3

Add proposed SR 3.8.6.1 — M.1

2. ~~The pilot cell specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200,~~ — L.3, L.4

SR 3.8.6.2 3. The pilot cell voltage is greater than or equal to ~~2.15~~ 2.07 volts, and

4. The overall battery voltage is greater than or equal to 250 volts. — See ITS 3.8.4

Add proposed SR 3.8.6.4 — M.1

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

Train A and Train B 250 VDC distribution subsystems (LA.2)

LCO 3.8.9 3.8.2.3 The following ~~D.C. bus trains~~ shall be ~~energized and~~ OPERABLE ~~with tie breakers between bus trains open:~~ (LA.1) (LA.2)

LCO 3.8.9.c TRAIN ~~AB~~ B ~~consisting of~~ 250-volt D.C. ~~bus AB,~~ ~~250-volt D.C. battery bank No. 2AB, and a full capacity charger,~~ and (See ITS 3.8.4)

TRAIN ~~CD~~ A ~~consisting of~~ 250-volt D.C. ~~bus CD~~, ~~250-volt D.C. battery bank No. 2CD, and a full capacity charger~~ (LA.2) (See ITS 3.8.4)

Add proposed LCO 3.8.9.e (A.2)

APPLICABILITY: MODES 1, 2, 3 and 4.

ACTION

Add proposed Required Action C.1 second Completion Time (M.1)

ACTION C
ACTION E

a. With one 250-volt D.C. bus inoperable, restore the inoperable bus to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (A.2)

Add proposed ACTION F

Add proposed ACTION G (M.2)

b. With one 250-volt D.C. battery and/or its charger inoperable, restore the inoperable battery and/or charger to OPERABLE status within 2 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours. (See ITS 3.8.4)

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1 4.8.2.3.1 Each D.C. bus train shall be determined OPERABLE ~~and energized with tie breakers open~~ at least once per 7 days by verifying correct breaker alignment and ~~indicated power availability~~ voltage. (LA.1) (M.3)

Add SR 3.8.9.1 for Unit 2 electrical power distribution subsystems (M.4)

4.8.2.3.2 Each 250-volt battery bank and charger shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that: (See ITS 3.8.4 and 3.8.6)

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

2. The pilot cell specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200, (See ITS 3.8.6)

3. The pilot cell voltage is greater than or equal to 2.13 volts, and

4. The overall battery voltage is greater than or equal to 250 volts. (See ITS 3.8.4)

ITS 3.8.4

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

See ITS 3.8.6

SR 3.8.4.2 c. At least once per ~~18~~ 24 months by: L.2

1. ~~Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,~~

2. ~~Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,~~

L.3

SR 3.8.4.2 3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

SR 3.8.4.3 d. At least once per ~~18~~ 24 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

L.2 A.3 L.4 LA.2

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

See ITS 3.8.6

Note 1 to SR 3.8.4.3

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

See ITS 3.8.6

A.1

ITS

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

M.2

31 days for electrolyte level

b. At least once per 92 days by verifying that:

L.4

2.07

SR 3.8.6.5 1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. ~~The specific gravity, corrected to 77°F, and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and~~

L.3

greater than or equal to minimum established design limits

L.5

SR 3.8.6.3 3. The electrolyte level of each connected cell is ~~between the top of the minimum level indication mark and the bottom of the maximum level indication mark.~~

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance,

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material,

3. Verifying that the battery charger will supply at least 300 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months, perform a battery service test during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle. The battery charger will be disconnected throughout the test.

See ITS 3.8.4

A.3

L.6

SR 3.8.6.6 e. At least once per 60 months, conduct a performance test of battery capacity ~~during shutdown (MODES 5 or 6),~~ by verifying that the battery capacity is at least 80% of the manufacturer's rating. When this test is performed in place of a battery service test, a modified performance test shall be conducted.

See ITS 3.8.4

or modified performance discharge

L.7

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. ~~Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating.~~ If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

LA.1

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ITS

A.1

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ITS 3.8.5

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

to support one train of the DC Electrical Power Distribution System required by LCO 3.8.10, "Distribution Systems - Shutdown." M.1

One

power subsystem

LCO 3.8.5 3.8.2.4 ~~As a minimum, the following~~ D.C. electrical ~~equipment and~~ ~~bus~~ shall be ~~energized and~~ OPERABLE: LA.1

See ITS 3.8.10

1 - 250-volt D.C. bus, and

1 - 250-volt battery bank and charger associated with the above D.C. bus. LA.1

APPLICABILITY: MODES 5 and 6. and during movement of irradiated fuel assemblies in the containment, auxiliary building, and Unit 1 containment A.3

ACTION: Add ACTIONS Note A.2

ACTION A With less than the above complement of D.C. equipment ~~and bus~~ OPERABLE.

See ITS 3.8.10

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity changes ~~except 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.~~ that could result in loss of required SDM or boron concentration. L.1

b. Immediately initiate actions to restore the required D.C. electrical equipment ~~and bus~~ to OPERABLE status.

c. Immediately declare associated required residual heat removal loop(s) inoperable.

See ITS 3.8.10

SURVEILLANCE REQUIREMENTS

4.8.2.4.1 The above required 250-volt D.C. bus shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.

See ITS 3.8.10

SR 3.8.5.1 4.8.2.4.2 The above required 250-volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

Add proposed Note to SR 3.8.5.1 L.2

ITS 3.8.6

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

Add proposed LCO 3.8.6

A.2

3.8.2.4 As a minimum, the following D.C. electrical equipment and bus shall be energized and OPERABLE:

See ITS 3.8.5 and 3.8.10

~~1 - 250-volt D.C. bus, and~~

See ITS 3.8.10

1 - 250-volt battery bank and charger associated with the above D.C. bus.

See ITS 3.8.5

APPLICABILITY: MODES 5 and 6.

A.2

ACTION:

Add proposed ACTIONS A, B, C, D, E, and F

L.1

With less than the above complement of D.C. equipment and bus OPERABLE.

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.

b. Immediately initiate actions to restore the required D.C. electrical equipment and bus to OPERABLE status.

See ITS 3.8.5 and 3.8.10

~~c. Immediately declare associated required residual heat removal loop(s) inoperable.~~

See ITS 3.8.10

SURVEILLANCE REQUIREMENTS

~~4.8.2.4.1 The above required 250-volt D.C. bus shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability.~~

See ITS 3.8.10

4.8.2.4.2 The above required 250-volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

See CTS markup pages 6 of 10 and 7 of 10

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ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - SHUTDOWN

LIMITING CONDITION FOR OPERATION

M.1 The necessary portions of the

LA.1

LA.2 distribution subsystem

LCO 3.8.10 3.8.2.4 ~~As a minimum, the following~~ D.C. electrical ~~equipment and bus~~ shall be ~~energized and~~ OPERABLE:

See ITS 3.8.5 ~~1 - 250-volt D.C. bus, and~~

See ITS 3.8.5 1 - 250-volt battery bank and charger associated with the above D.C. bus.

APPLICABILITY: MODES 5 and 6.

A.4 During movement of irradiated fuel assemblies in the containment, auxiliary building, and Unit 1 containment

A.2 Add ACTIONS Note

ACTION:

See ITS 3.8.5

ACTION A With less than the above complement of D.C. ~~equipment and~~ bus OPERABLE. Add proposed Required Action A.1

M.1

a. Immediately suspend all operations involving CORE ALTERATIONS, movement of irradiated fuel assemblies, and positive reactivity ~~changes except: 1) heatup or cooldown of the reactor coolant volume provided that SHUTDOWN MARGIN sufficient to accommodate the change in temperature is maintained in accordance with Specification 3.1.1.2 in MODE 5 or Specification 3.9.1 in MODE 6, and the heatup or cooldown rate is restricted to 50°F or less in any one-hour period in MODE 5, or 2) addition of water from the RWST, provided the boron concentration in the RWST is greater than or equal to the minimum required by Specification 3.1.2.7.b.2.~~ additions that could result in loss of required SDM or boron concentration

L.1

b. Immediately initiate actions to restore the required D.C. electrical ~~equipment and~~ bus to OPERABLE status. See ITS 3.8.5

c. Immediately declare associated required residual heat removal loop(s) inoperable.

LA.1

SURVEILLANCE REQUIREMENTS

M.2

SR 3.8.10.1 4.8.2.4.1 The above required 250-volt D.C. bus shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and ~~indicated power availability~~ voltage

See ITS 3.8.5 and 3.8.6 4.8.2.4.2 The above required 250-volt battery bank and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.3.2.

ITS 3.8.4

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING - TRAIN N BATTERY SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.8.4.b

3.8.2.5 The following D.C. ~~bus train~~ electrical power subsystems shall be energized and OPERABLE: (LA.1) (See ITS 3.8.9)

TRAIN N consisting of 250-volt D.C. bus N, 250-volt D.C. battery bank N, and a full capacity charger. (LA.1)

APPLICABILITY: MODES 1, 2 and 3.

ACTION

ACTION D

With the Train N battery system inoperable, declare the turbine driven Auxiliary Feedwater Pump inoperable and follow the ACTION statement of Specification 3.7.1.2. (A.4)

SURVEILLANCE REQUIREMENTS

4.8.2.5.1 The D.C. bus train N shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability. (See ITS 3.8.9)

4.8.2.5.2 The 250-volt battery bank and charger shall be demonstrated OPERABLE:

SR 3.8.4.1

a. At least once per 7 days by verifying that:

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,

2. The pilot cell specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200,

3. The pilot cell voltage is greater than or equal to 2.13 volts, and

(See ITS 3.8.6)

SR 3.8.4.1

4. The overall battery voltage is greater than or equal ~~to 250 volts~~ to the minimum established float voltage (L.5)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.

2. The specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and

3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

(See ITS 3.8.6)

ITS 3.8.6

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING - TRAIN N BATTERY SYSTEM

LIMITING CONDITION FOR OPERATION — Add proposed LCO 3.8.6 — A.2

3.8.2.5 The following D.C. bus train shall be energized and OPERABLE:

TRAIN N consisting of 250-volt D.C. bus N, 250-volt D.C. battery bank N, and a full capacity charger. — See ITS 3.8.4 and 3.8.9

APPLICABILITY: MODES 1, 2 and 3. — A.2

ACTION — Add proposed ACTIONS A, B, C, D, E, and F — L.1

With the Train N battery system inoperable, declare the turbine driven Auxiliary Feedwater Pump inoperable and follow the ACTION statement of Specification 3.7.1.2. — See ITS 3.8.4 and 3.8.9

SURVEILLANCE REQUIREMENTS

4.8.2.5.1 The D.C. bus train N shall be determined OPERABLE and energized at least once per 7 days by verifying correct breaker alignment and indicated power availability. — See ITS 3.8.9

4.8.2.5.2 The 250-volt battery bank and charger shall be demonstrated OPERABLE: — L.2

SR 3.8.6.2 a. At least once per ~~7~~ 31 days by verifying that:

1. ~~The electrolyte level of each pilot cell is between the minimum and maximum level indication marks.~~ — L.3

Add proposed SR 3.8.6.1 — M.1

2. ~~The pilot cell specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200,~~ — L.3

SR 3.8.6.2 3. The pilot cell voltage is greater than or equal to ~~2.13~~ 2.07 volts, and — L.4

4. The overall battery voltage is greater than or equal to 250 volts. — See ITS 3.8.4

b. At least once per 92 days by verifying that: — 31 days for electrolyte level — M.2 — L.4

SR 3.8.6.5 1. The voltage of each connected cell is greater than or equal to ~~2.13~~ 2.07 volts under float charge.

2. ~~The specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test,~~ and — L.3

SR 3.8.6.3 3. The electrolyte level of each connected cell is ~~between the top of the minimum level indication mark and the bottom of the maximum level indication mark~~ greater than or equal to minimum established design limits — L.5

Add proposed SR 3.8.6.4 — M.1

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ITS 3.8.9

A.1

ITS

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

D.C. DISTRIBUTION - OPERATING - TRAIN N BATTERY SYSTEM

LIMITING CONDITION FOR OPERATION

electrical power distribution subsystem

LA.2 LA.1 LA.2

LCO 3.8.9 — 3.8.2.5 The following D.C. bus ~~train~~ shall be ~~energized and~~ OPERABLE:

LCO 3.8.9.d — TRAIN N consisting of 250-volt D.C. ~~bus~~ N, 250-volt D.C. battery bank N, and a full capacity charger. (See ITS 3.8.4)

APPLICABILITY: MODES 1, 2 and 3.

ACTION

ACTION E — With the Train N battery system inoperable, declare the turbine driven Auxiliary Feedwater Pump inoperable ~~and follow the ACTION statement of Specification 3.7.1.2.~~ (A.4)

Add proposed ACTION G (M.2)

SURVEILLANCE REQUIREMENTS

SR 3.8.9.1 — 4.8.2.5.1 The D.C. bus train N shall be determined OPERABLE ~~and energized~~ at least once per 7 days by verifying correct breaker alignment and ~~indicated power availability~~ voltage. (LA.1) (M.3)

4.8.2.5.2 The 250-volt battery bank and charger shall be demonstrated OPERABLE: (See ITS 3.8.4 and 3.8.6)

a. At least once per 7 days by verifying that:

1. The electrolyte level of each pilot cell is between the minimum and maximum level indication marks,
2. The pilot cell specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), is greater than or equal to 1.200, (See ITS 3.8.6)
3. The pilot cell voltage is greater than or equal to 2.13 volts, and
4. The overall battery voltage is greater than or equal to 250 volts. (See ITS 3.8.4)

b. At least once per 92 days by verifying that:

1. The voltage of each connected cell is greater than or equal to 2.13 volts under float charge.
2. The specific gravity, corrected to 77°F and full electrolyte level (fluid at the bottom of the maximum level indication mark), of each connected cell is greater than or equal to 1.200 and has not decreased more than 0.03 from the value observed during the previous test, and (See ITS 3.8.6)
3. The electrolyte level of each connected cell is between the top of the minimum level indication mark and the bottom of the maximum level indication mark.

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ITS 3.8.4

ITS

A.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.8.4.2 c. At least once per ~~18~~ 24 months by: L.2

1. ~~Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.~~

2. ~~Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.~~ L.3

SR 3.8.4.2 3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

SR 3.8.4.3 d. At least once per ~~18~~ 24 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected. L.2 A.3 L.4 LA.2

e. At least once per 60 months, conduct a performance test of battery capacity during shutdown (MODES 5 or 6), by verifying that the battery capacity is at least 80% of the manufacturer's rating. See ITS 3.8.6

Note 1 to SR 3.8.4.3: When this test is performed in place of a battery service test, a modified performance test shall be conducted.

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation. See ITS 3.8.6

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ITS 3.8.6

A.1

ITS

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by:

1. Verifying that the cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration that could degrade battery performance.

2. Removing visible corrosion and verifying that the cell-to-cell and terminal connections are clean, tight, and coated with anti-corrosion material.

3. Verifying that the battery charger will supply at least 25 amperes at greater than or equal to 250 volts for at least 4 hours.

d. At least once per 18 months perform a battery service test, during shutdown (MODES 5 or 6), by verifying that the battery capacity is adequate to supply and maintain in OPERABLE status the actual or simulated emergency loads for the design duty cycle with the battery charger disconnected.

See ITS 3.8.4

A.3

SR 3.8.6.6

e. ~~At least once per 60 months, conduct a performance~~ test of battery capacity ~~during shutdown (MODES 5 or 6)~~ by verifying that the battery capacity is at least 80% of the manufacturer's rating. ~~When this test is performed in place of a battery service test, a modified performance test shall be conducted.~~

or modified performance discharge

L.6

See ITS 3.8.4

L.7

Annual performance tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% from its capacity on the previous performance test, or is below 90% of the manufacturer's rating. If the battery has reached 85% of service life, delivers a capacity of 100% or greater of the manufacturer's rated capacity, and has shown no signs of degradation, performance testing at two year intervals is acceptable until the battery shows signs of degradation.

LA.1

A.1

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LA.1

3/4.0 LIMITING CONDITION FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.8 ELECTRICAL POWER SYSTEMS

3/4.8.3 Alternative A.C. Power Sources

LIMITING CONDITION FOR OPERATION

3.8.3.1 The steady state bus voltage for the manual alternate reserve source* shall be greater than or equal to 90% of the nominal bus voltage.

APPLICABILITY: Whenever the manual alternate reserve source (69 kV) is connected to more than two buses.

ACTION: With bus voltage less than 90% nominal, adjust load on the remaining buses to maintain steady state bus voltage greater than or equal to 90% limit.

SURVEILLANCE REQUIREMENTS

4.8.3.1 No additional surveillance requirements other than those required by Specifications 4.8.1.1.1 and 4.8.1.2.

*Shared with Cook Nuclear Plant Unit 1.

ITS 3.9.1

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

BORON CONCENTRATION

LIMITING CONDITION FOR OPERATION

and the refueling cavity — A.2

LCO 3.9.1 — 3.9.1 The boron concentration of ~~all filled portions of~~ the Reactor Coolant System ~~and~~ the refueling canal shall be maintained ~~uniform and sufficient to ensure that the more restrictive of the following reactivity conditions is met:~~

~~a. Either a K_{eff} of 0.95 or less, which includes a 1% Δk/k conservative allowance for uncertainties, or~~

~~b. A boron concentration of greater than or equal to 2400 ppm, which includes a 50 ppm conservative allowance for uncertainties.~~

within the limit specified in the COLR — LA.1

APPLICABILITY: MODE 6

Add proposed Applicability Note — L.1

ACTION:

ACTION A — a. With the requirements of the above specification not satisfied, 1) immediately suspend all operations involving CORE ALTERATIONS or positive reactivity changes ~~except addition of water from the RWST, provided the boron concentration in the RWST is greater than the minimum required by Specification 3.1.2.7.b.2, and~~ 2) initiate and continue boration ~~at greater than or equal to 24 gpm of 6,550 ppm boric acid solution or its equivalent until K_{eff} is reduced to less than or equal to 0.95 or the boron concentration is restored to greater than or equal to 2400 ppm, whichever is the more restrictive.~~ — M.1, L.2

~~b. The provisions of Specification 3.0.3 are not applicable.~~ — A.3

SURVEILLANCE REQUIREMENTS

~~4.9.1.1 The more restrictive of the above two reactivity conditions shall be determined prior to:~~

~~a. Removing or unbolting the reactor vessel head, and~~

~~b. Withdrawal of any full length control rod in excess of 3 feet from its fully inserted position within the reactor pressure vessel.~~ — L.3

SR 3.9.1.1 — 4.9.1.2 The boron concentration of the reactor coolant system and the refueling canal shall be determined ~~by chemical analysis~~ at least once per 72 hours. — LA.2

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A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

M.1

LA.1

INSTRUMENTATION

L.1

LIMITING CONDITION FOR OPERATION

OPERABLE

LCO 3.9.2

3.9.2 As a minimum, two source range neutron flux monitors shall be ~~operating~~, ~~each with continuous visual indication in the control room~~ and one with audible ~~indication~~ ~~in the containment and control room~~.

count rate circuit shall be OPERABLE

M.1

APPLICABILITY: MODE 6.

ACTION:

L.2

ACTION A

a. With the requirements of the above specification not satisfied, immediately suspend all operations involving CORE ALTERATIONS or ~~positive reactivity changes~~ ~~except addition of water from the RWST, provided the boron concentration in the RWST is greater than the minimum required by Specification 3.1.2.7.b.2.~~

M.2

A.2

b. ~~The provisions of Specification 3.0.3 are not applicable.~~

Add proposed ACTION B

M.3

Add proposed ACTION C

SURVEILLANCE REQUIREMENTS

L.3

4.9.2 Each source range neutron flux monitor shall be demonstrated OPERABLE by performance of:

a. ~~A CHANNEL FUNCTIONAL TEST at least once per 7 days, and~~

L.4

b. ~~A CHANNEL FUNCTIONAL TEST within 8 hours prior to the initial start of CORE ALTERATIONS, and~~

M.4

SR 3.9.2.1

c. A CHANNEL CHECK at least once per 12 hours ~~during CORE ALTERATIONS~~.

Add proposed SR 3.9.2.2

M.5

CTS 3/4.9.3

LA.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

DECAY TIME

LIMITING CONDITION FOR OPERATION

3.9.3 The reactor shall be subcritical for at least:

a. 100 hours

b. 148 hours

APPLICABILITY: Specification 3.9.3.a - From September 15 through June 15, during movement of irradiated fuel in the reactor pressure vessel.

Specification 3.9.3.b - From June 16 through September 14, during movement of irradiated fuel in the reactor pressure vessel

ACTION:

With the reactor subcritical for less than the required time, suspend all operations involving movement of irradiated fuel in the reactor pressure vessel. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.3 The reactor shall be determined to have been subcritical as required by verification of the date and time of subcriticality prior to movement of irradiated fuel in the reactor pressure vessel.

ITS 3.9.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

CONTAINMENT BUILDING PENETRATIONS

LIMITING CONDITION FOR OPERATION

LCO 3.9.3 3.9.4 The containment building penetrations shall be in the following status:

LCO 3.9.3.a a. The equipment door closed and held in place by a minimum of four bolts,

b. The airlock doors are controlled in the following manner:

LCO 3.9.3.b 1. A minimum of one door in each airlock is closed, or — A.2

2. Both airlock doors may be open provided:

a. One door in each airlock is OPERABLE*,

b. ~~Refueling cavity level is greater than 23 feet above the fuel, and~~ — A.3

c. ~~A designated individual is available at all times to close the airlock if required.~~ — LA.1

LCO 3.9.3.c c. Each penetration providing direct access from the containment atmosphere to the outside atmosphere shall be either:

1. Closed by an isolation valve, blind flange, manual valve, or equivalent, or

2. Be capable of being closed by an OPERABLE automatic Containment Purge and Exhaust isolation valve.

NOTE

Penetration flow path(s) providing direct access from the containment atmosphere to the outside atmosphere via the auxiliary building vent may be unisolated under administrative controls.

APPLICABILITY: During ~~CORE ALTERATIONS or~~ movement of irradiated fuel within the containment. — L.1

ACTION:

ACTION A With the requirements of the above specification not satisfied, immediately suspend ~~all operations involving CORE ALTERATIONS or~~ movement of irradiated fuel in the containment building. ~~The provisions of Specification 3.0.3 are not applicable.~~ — L.1, A.4

SURVEILLANCE REQUIREMENTS — L.2

SR 3.9.3.1, SR 3.9.3.2 4.9.4 Each of the above required containment building penetrations shall be determined to be in its required status ~~within 100 hours prior to the start of and~~ at least once per 7 days during ~~CORE ALTERATIONS or~~ movement of irradiated fuel in the containment building by: — L.1, L.3

~~* For the purpose of this Specification, an OPERABLE airlock door is a door that is capable of being closed and secured. Cables or hoses transversing the airlock shall be designed to allow for removal in a timely manner (e.g., quick disconnects).~~ — LA.1

ITS 3.9.3

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

CONTAINMENT PENETRATIONS

SURVEILLANCE REQUIREMENTS (Continued)

SR 3.9.3.1 a. Verifying the penetrations are in the required status, or

SR 3.9.3.2 b. Testing the Containment Purge and Exhaust isolation valves per the applicable portions of Specification 4.6.3.1.2.

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CTS 3/4.9.5

R.1

REFUELING OPERATIONS

COMMUNICATIONS

LIMITING CONDITION FOR OPERATION

3.9.5 Direct communications shall be maintained between the control room and personnel at the refueling station.

APPLICABILITY: During CORE ALTERATIONS.

ACTION:

When direct communications between the control room and personnel at the refueling station cannot be maintained, suspend all CORE ALTERATIONS. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.5 Direct communications between the control room and personnel at the refueling station shall be demonstrated within one hour prior to the start of and at least once per 12 hours during CORE ALTERATIONS.

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

3.9.6 DELETED

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3.9.7 DELETED

ITS 3.9.4

A.1

ITS

REFUELING OPERATIONS

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

LIMITING CONDITION FOR OPERATION

M.1 OPERABLE and

LCO 3.9.4 3.9.8.1 At least one residual heat removal loop shall be in operation.

APPLICABILITY: MODE 6*. with the water level ≥ 23 ft above the top of the reactor vessel flange (A.2)

ACTION:

ACTION A a. With less than one residual heat removal loop in operation, except as provided in b. below, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System. Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours. (A.3, L.1, L.2)

Add proposed Required Action A.3 (M.2)

LCO 3.9.4 Note b. The residual heat removal loop may be removed from operation for up to 1 hour per 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor pressure vessel hot legs. (M.3)

c. ~~The provisions of Specification 3.0.3 are not applicable.~~ (A.4)

SURVEILLANCE REQUIREMENTS

SR 3.9.4.1 4.9.8.1 A residual heat removal loop shall be determined to be in operation and circulating reactor coolant at a flow rate of greater than or equal to 2000 gpm at least once per ~~24~~ 12 hours. (M.4)

*For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.7.b.2. (L.1)

ITS 3.9.5

A.1

ITS

REFUELING OPERATIONS

3/4.9.8 RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION

LIMITING CONDITION FOR OPERATION

L.3

LCO 3.9.5 — 3.9.8.1 At least one residual heat removal loop ~~shall be in operation.~~

Add proposed LCO Note 1

A.2

APPLICABILITY: MODE 6.

with the water level < 23 ft above the top of the reactor vessel flange

A.3

ACTION:

ACTION B — a. With less than one residual heat removal loop in operation, excep as provided in b. below, suspend all operations involving an increase in the reactor decay heat load or a reduction in boron concentration of the Reactor Coolant System.* Close all containment penetrations providing direct access from the containment atmosphere to the outside atmosphere within 4 hours.

L.1

L.2

Add proposed Required Action B.2

M.1

See ITS 3.9.4 — b. The residual heat removal loop may be removed from operation for up to 1 hour per 8 hour period during the performance of CORE ALTERATIONS in the vicinity of the reactor pressure vessel hot legs.

c. ~~The provisions of Specification 3.0.3 are not applicable.~~

A.4

SURVEILLANCE REQUIREMENTS

SR 3.9.5.1 — 4.9.8.1 A residual heat removal loop shall be determined to be in operation and circulating reactor coolant at a flow rate of greater than or equal to 2000 gpm at least once per ~~24~~ hours.

12

M.2

* For purposes of this specification, addition of water from the RWST does not constitute a dilution activity provided the boron concentration in the RWST is greater than or equal to the minimum required by specification 3.1.2.7.b.2.

L.1

D. C. COOK - UNIT 2 3/4 9-8 AMENDMENT NO. 82, 107

ITS 3.9.5

A.1

ITS

REFUELING OPERATIONS

LOW WATER LEVEL

LIMITING CONDITION FOR OPERATION

LCO 3.9.5 — 3.9.8.2 Two independent Residual Heat Removal (RHR) loops shall be OPERABLE.* — A.5

Add proposed LCO Note 2 — L.3

APPLICABILITY: MODE 6 when the water level above the top of the reactor pressure vessel flange is less than 23 feet.

ACTION A — ACTION:

a. With less than the required RHR loops OPERABLE, immediately initiate corrective action to return the required RHR loops to OPERABLE status as soon as possible.

Add proposed Required Action A.2 — A.6

~~b. The provisions of Specification 3.0.3 are not applicable.~~ — A.4

SURVEILLANCE REQUIREMENTS

~~4.9.8.2 The required Residual Heat Removal loops shall be determined OPERABLE per Specification 4.0.5.~~ — L.4

Add proposed SR 3.9.5.2 and Note — M.3

~~*The normal or emergency power source may be inoperable for each RHR loop.~~ — A.5

D. C. COOK - UNIT 2 — 3/4 9-8a — Amendment No. 59

A.1

ITS 3.3.6

ITS

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM (A.2)

LIMITING CONDITION FOR OPERATION

LCO 3.3.6 — 3.9.9 The Containment Purge and Exhaust isolation system instrumentation shall be OPERABLE.

Table 3.3.6-1 Footnote (a) — APPLICABILITY: During ~~Core Alterations or~~ movement of irradiated fuel within the containment. (L.2)

ACTION:

ACTION C — With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~ (A.8)

SURVEILLANCE REQUIREMENTS

SR 3.3.6.6, SR 3.3.6.7 — 4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE ~~within 100 hours prior to the start of~~ and at least once per ~~7 days~~ 184 days for containment radiation monitors (L.9) 24 months for manual initiation (L.6) ~~during CORE ALTERATIONS~~ (L.2) (L.8) by verifying that containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels. (See ITS 3.9.3)

COOK NUCLEAR PLANT - UNIT 2 3/4 9-9 AMENDMENT NO. ~~47~~, ~~83~~, 151

A.1

ITS

REFUELING OPERATIONS

CONTAINMENT PURGE AND EXHAUST ISOLATION SYSTEM

LIMITING CONDITION FOR OPERATION

LCO 3.9.3.c.2 3.9.9 The Containment Purge and Exhaust isolation system shall be OPERABLE.

L.1

APPLICABILITY: During ~~Core Alterations or~~ movement of irradiated fuel within the containment.

ACTION:

LCO 3.9.3.c.1 With the Containment Purge and Exhaust isolation system inoperable, close each of the Purge and Exhaust penetrations providing direct access from the containment atmosphere to the outside atmosphere. ~~The provisions of Specification 3.0.3 are not applicable.~~

A.4

SURVEILLANCE REQUIREMENTS

SR 3.9.3.2 4.9.9 The Containment Purge and Exhaust isolation system shall be demonstrated OPERABLE ~~within 100 hours prior to the start of and~~ at least once per 7 days ~~during CORE ALTERATIONS~~ by verifying that containment Purge and Exhaust isolation occurs on manual initiation and on a high radiation test signal from each of the containment radiation monitoring instrumentation channels.

L.2

L.1

See ITS 3.3.6

L.3

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ITS 3.9.6

ITS

A.1

REFUELING OPERATIONS

3/4.9.10 WATER LEVEL - REACTOR VESSEL

LIMITING CONDITION FOR OPERATION

LCO 3.9.6

3.9.10 At least 23 feet of water shall be maintained over the top of the reactor pressure vessel flange.

APPLICABILITY: During movement of irradiated fuel assemblies ~~or control rods~~ ~~within the reactor pressure vessel~~ ~~while in MODE 6.~~

ACTION A

ACTION:

With the requirements of the above specification not satisfied, suspend all operations involving movement of irradiated fuel assemblies ~~or control rods~~ ~~within the pressure vessel.~~ ~~The provisions of Specification 3.0.3 are not applicable.~~

L.1 L.2 A.2 M.1 L.1 L.2 A.3 M.1

SURVEILLANCE REQUIREMENTS

SR 3.9.6.1

4.9.10 The water level shall be determined to be at least its minimum required depth ~~within 2 hours prior to the start of and~~ at least once per 24 hours ~~thereafter during movement of fuel assemblies~~ ~~or control rods.~~

L.3 L.2

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ITS 3.7.14

A.1

ITS

REFUELING OPERATIONS

STORAGE POOL WATER LEVEL*

LIMITING CONDITION FOR OPERATION

LCO 3.7.14

3.9.11 At least 23 feet of water shall be maintained over the top of irradiated fuel assemblies seated in the storage racks.

APPLICABILITY: ~~Whenever irradiated fuel assemblies are in the storage pool~~.

During movement of irradiated fuel assemblies in the fuel storage pool

L.1

ACTION A

ACTION:

irradiated

immediately

L.2

With the requirements of the specification not satisfied, suspend all movement of fuel assemblies and crane operations with loads in the fuel storage areas and restore the water level to within its limit within 4 hours. The provisions of Specification 3.0.3 are not applicable.

A.2

L.1

SURVEILLANCE REQUIREMENTS

SR 3.7.14.1

4.9.11 The water level in the storage pool shall be determined to be at least its minimum required depth at least once per 7 days when irradiated fuel assemblies are in the fuel storage pool.

L.1

*Shared system with D. C. COOK - UNIT 1.

LA.1

D. C. COOK - UNIT 2 3/4 9-11

Page 2 of 2

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

A.4

STORAGE POOL VENTILATION SYSTEM**

M.1

LIMITING CONDITION FOR OPERATION

One | train | and in operation

LCO 3.7.13 3.9.12 ~~The~~ spent fuel storage pool exhaust ventilation system shall be OPERABLE.

L.1

APPLICABILITY: ~~Whenever irradiated fuel is in the storage pool.~~ During movement of irradiated fuel assemblies in the auxiliary building

ACTION:

M.1

irradiated fuel in the auxiliary building | or in operation

ACTION A a. With no fuel storage pool exhaust ventilation system OPERABLE, suspend all operations involving movement of ~~fuel within the storage pool~~ ~~or crane operation with loads over the storage pool~~ until at least one spent fuel storage pool exhaust ventilation system is restored to OPERABLE status.*

L.2

A.2

L.1

ACTIONS Note b. The provisions of Specifications 3.0.3 ~~and 3.0.4~~ are not applicable.

Add proposed SR 3.7.13.1

M.1

SURVEILLANCE REQUIREMENTS

train

A.4

SR 3.7.13.2 4.9.12 The above required fuel storage pool ventilation system shall be demonstrated OPERABLE:

L.5

184

a. At least once per ~~31~~ days ~~by initiating flow through the HEPA filter and charcoal adsorber train~~ and verifying that the train operates for at least 15 minutes.

LA.1

Add proposed SR 3.7.13.3

A.3

b. At least once per 18 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system, by: 1. Deleted. 2. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm ± 10%.

See ITS 5.5

auxiliary building

L.3

LCO 3.7.13 Note * The ~~crane bay roll-up door and the south door of the auxiliary building crane bay~~ may be opened under administrative control during movement of fuel within the storage pool ~~or crane operation with loads over the storage pool~~

L.2

~~** Shared system with D. C. COOK - UNIT 1.~~

LA.2

ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

STORAGE POOL VENTILATION SYSTEM**

LIMITING CONDITION FOR OPERATION

3.9.12 The spent fuel storage pool exhaust ventilation system shall be OPERABLE. See ITS 3.7.13

APPLICABILITY: Whenever irradiated fuel is in the storage pool.

ACTION:

a. With no fuel storage pool exhaust ventilation system OPERABLE, suspend all operations involving movement of fuel within the storage pool or crane operation with loads over the storage pool until at least one spent fuel storage pool exhaust ventilation system is restored to OPERABLE status.*

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

Add proposed ITS 5.5.9 generic program statement A.9

4.9.12 The above required fuel storage pool ventilation system shall be demonstrated OPERABLE: See ITS 3.7.13

a. At least once per 31 days by initiating flow through the HEPA filter and charcoal adsorber train and verifying that the train operates for at least 15 minutes.

5.5.9 b. At least once per ~~18~~ 24 months or (1) after any structural maintenance on the HEPA filter or charcoal adsorber housings, or (2) following painting, fire or chemical release in any ventilation zone communicating with the system while it is in operation that could adversely affect the filter bank or charcoal adsorber capability, by: L.3 A.8

1. Deleted.

5.5.9.b 2. Verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm ± 10%.

* The crane bay roll-up door and the south door of the auxiliary building crane bay may be opened under administrative control during movement of fuel within the storage pool or crane operation with loads over the storage pool. See ITS 3.7.13

** Shared system with D. C. COOK - UNIT 1.

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

3. Verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm plus or minus 10%.

4. Verifying within 31 days after removal that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 46.8 fpm face velocity. The carbon samples not obtained from test canisters shall be prepared by either:

   (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

   (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

   Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm plus or minus 10%.

5. Verifying a system flow rate of 30,000 cfm plus or minus 10% during system operation when tested in accordance with ANSI N510-1980.

c. After every 720 hours of charcoal adsorber operation by either:

1. Verifying within 31 days after removal that a laboratory analysis of a carbon sample obtained from a test canister shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95%,R.H., and ≥ 46.8 fpm face velocity.

See ITS 5.5

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

5.5.9.a — 3. Verifying that the HEPA filter banks remove greater than or equal to 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the exhaust ventilation system at a flow rate of 30,000 cfm plus or minus 10%. LA.5

5.5.9.c — 4. Verifying ~~within 31 days after removal~~ that a laboratory analysis of a carbon sample from either at least one test canister or at least two carbon samples removed from one of the charcoal adsorbers shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 46.8 fpm face velocity. The carbon samples not obtained from test canisters shall be prepared by either:

5.5.9.c.1 — (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

5.5.9.c.2 — (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

~~Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm plus or minus 10%.~~ L.4

5.5.9.a, 5.5.9.b — 5. Verifying a system flow rate of 30,000 cfm plus or minus 10% during system operation when tested in accordance with ANSI N510-1980.

5.5.9 — c. After every 720 hours of charcoal adsorber operation by either: LA.5

5.5.9.c — 1. Verifying ~~within 31 days after removal~~ that a laboratory analysis of a carbon sample obtained from a test canister shows a penetration of less than or equal to 5% for radioactive methyl iodide when the sample is tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 46.8 fpm face velocity.

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ITS 3.7.13

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying within 31 days after removal that laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 5% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 46.8 fpm face velocity and the samples are prepared by either:

(a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

(b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm plus or minus 10%.

See ITS 5.5

SR 3.7.13.4, SR 3.7.13.5 — d. At least once per ~~18~~ 24 months by: L.4

1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than or equal to 6 inches Water Gauge while operating the exhaust ventilation system at a flow rate of 30,000 cfm plus or minus 10%. See ITS 5.5

2. Deleted. the FHAEV System actuates LA.1 M.1

SR 3.7.13.4 — 3. Verifying that on a ~~high-radiation~~ actual or simulated signal, ~~the system automatically directs its exhaust flow through the charcoal adsorber banks~~ and ~~automatically shuts down the storage pool ventilation system supply fans.~~ LA.1

SR 3.7.13.5 — 4. Verifying that the required exhaust ventilation system train maintains the spent fuel storage pool area at a negative pressure of greater than or equal to 1/8 inches Water Gauge relative to the outside atmosphere during system operation. with flow rate ≤ 27,000 cfm A.4 M.2 A.4

ITS 5.5

ITS

A.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.9 REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

LA.5

5.5.9.c 2. Verifying ~~within 31 days after removal~~ that laboratory analysis of at least two carbon samples shows a penetration of less than or equal to 5% for radioactive methyl iodide when the samples are tested in accordance with ASTM D3803-1989, 30°C, 95% R.H., and ≥ 46.8 *fpm face velocity and the samples are prepared by either:*

5.5.9.c.1 (a) Emptying one entire bed from a removed adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed, or

5.5.9.c.2 (b) Emptying a longitudinal sample from an adsorber tray, mixing the adsorbent thoroughly, and obtaining samples at least two inches in diameter and with a length equal to the thickness of the bed.

~~Subsequent to reinstalling the adsorber tray used for obtaining the carbon sample, the system shall be demonstrated OPERABLE by also verifying that the charcoal adsorbers remove greater than or equal to 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm plus or minus 10%.~~ L.4

24 L.3

5.5.9 d. At least once per ~~18~~ months by:

5.5.9.d 1. Verifying that the pressure drop across the combined HEPA filters and charcoal adsorber banks is less than or equal to 6 inches Water Gauge while operating the exhaust ventilation system at a flow rate of 30,000 cfm plus or minus 10%.

2. Deleted.

3. Verifying that on a high-radiation signal, the system automatically directs its exhaust flow through the charcoal adsorber banks and automatically shuts down the storage pool ventilation system supply fans.

4. Verifying that the exhaust ventilation system maintains the spent fuel storage pool area at a negative pressure of greater than or equal to 1/8 inches Water Gauge relative to the outside atmosphere during system operation.

See ITS 3.7.13

ITS 3.7.13

A.1

ITS

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 99% of a halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

See ITS 5.5

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ITS 5.5

A.1

ITS

REFUELING OPERATIONS

SURVEILLANCE REQUIREMENTS (Continued)

5.5.9 e. After each complete or partial replacement of a HEPA filter bank by verifying that the HEPA filter banks remove ≥ 99% of the DOP when
5.5.9.a they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

5.5.9 f. After each complete or partial replacement of a charcoal adsorber bank by verifying that the charcoal adsorbers remove ≥ 99% of a
5.5.9.b halogenated hydrocarbon refrigerant test gas when they are tested in-place in accordance with ANSI N510-1980 while operating the ventilation system at a flow rate of 30,000 cfm ± 10%.

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the VFTP test Frequencies. A.9

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CTS 3/4.9.13

LA.1

REFUELING OPERATIONS

SPENT FUEL CASK MOVEMENT

LIMITING CONDITION FOR OPERATION

3.9.13 Movement of the spent fuel cask above elevation 620 feet shall be done with the spent fuel cask handling crane operating in the Controlled Path Mode of operation.

APPLICABILITY: With fuel assemblies in the storage pool.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.13 Crane interlocks which prevent raising the bottom of the spent fuel cask more than 6 inches above the top of the Cask Drop Protection System cylinder and restrict the crane's movement to the Controlled Path shall be demonstrated OPERABLE within 7 days prior to crane operation in the Controlled Path Mode and at least once per 7 days thereafter during crane operation in the Controlled Path Mode.

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CTS 3/4.9.14

LA.1

REFUELING OPERATIONS

SPENT FUEL CASK DROP PROTECTION SYSTEM

LIMITING CONDITION FOR OPERATION

3.9.14 The maximum weight of a spent fuel cask used with the Cask Drop Protection System shall be limited to 110 tons (nominal).

APPLICABILITY: At all times.

ACTION:

With the requirements of the above specification not satisfied, place the crane load in a safe condition. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.9.14 The weight of a spent fuel cask shall be verified to be ≤ 110 tons (nominal) prior to its use with the Cask Drop Protection System.

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A.1

ITS

REFUELING OPERATIONS

STORAGE POOL BORON CONCENTRATION*

LIMITING CONDITION FOR OPERATION

LCO 3.7.15 — 3.9.15 A boron concentration of greater than or equal to 2,400 ppm shall be maintained in the fuel storage pool.

APPLICABILITY: ~~At all times~~ ← When fuel assemblies are stored in the fuel storage pool and a fuel storage pool verification has not been performed since the last movement of fuel assemblies in the fuel storage pool — L.1

ACTION:

ACTION A — With the requirements of the specification not satisfied, suspend all movement of fuel assemblies in the fuel storage pool and restore the boron concentration to within its limit prior to resuming fuel movement. The provisions of Specification 3.0.3 are not applicable.

← Add proposed Required Action A.2.2 — L.1

SURVEILLANCE REQUIREMENTS

SR 3.7.15.1 — 4.9.15 The boron concentration in the fuel storage pool shall be determined to be at least at its minimum required at least once per 7 days.

~~*Shared system with Cook Nuclear Plant - Unit 1~~ — LA.1

CTS 3/4.10.1

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.10 SPECIAL TEST EXCEPTIONS

SHUTDOWN MARGIN

LIMITING CONDITION FOR OPERATION

3.10.1 The SHUTDOWN MARGIN requirement of Specification 3.1.1.1 may be suspended for measurement of control rod worth and shutdown margin provided the reactivity equivalent to at least the highest estimated control rod worth is available for trip insertion for OPERABLE control rod(s).

APPLICABILITY: MODE 2.

ACTION:

a. With any full length control rod not fully inserted and with less than the above reactivity equivalent available for trip insertion, immediately initiate and continue boration at ≥ 34 gpm of 6,550 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored.

b. With all full length control rods inserted and the reactor subcritical by less than the above reactivity equivalent, immediately initiate and continue boration at ≥ 34 gpm of 6,550 ppm boric acid solution or its equivalent until the SHUTDOWN MARGIN required by Specification 3.1.1.1 is restored. M.1

SURVEILLANCE REQUIREMENTS

4.10.1.1 The position of each full length rod either partially or fully withdrawn shall be determined at least once per 2 hours.

4.10.1.2 Each full length rod not fully inserted shall be demonstrated capable of full insertion when tripped from at least the 50% withdrawn position within 7 days prior to reducing the SHUTDOWN MARGIN to less than the limits of Specification 3.1.1.1.

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CTS 3/4.10.2

SPECIAL TEST EXCEPTIONS

GROUP HEIGHT, INSERTION AND POWER DISTRIBUTION LIMITS

LIMITING CONDITION FOR OPERATION

3.10.2 The group height, insertion and power distribution limits of Specifications 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.1, and 3.2.4 may be suspended during the performance of PHYSICS TESTS provided:

a. The THERMAL POWER is maintained ≤ 85% of RATED THERMAL POWER, and

b. The limits of Specifications 3.2.2 and 3.2.3 are maintained and determined at the frequencies specified in Specification 4.10.2.2 below.

APPLICABILITY: MODE 1

ACTION:

With any of the limits of Specifications 3.2.2 or 3.2.3 being exceeded while the requirements of Specifications 3.1.3.1, 3.1.3.5, 3.1.3.6, 3.2.1 and 3.2.4 are suspended, either: M.1

a. Reduce THERMAL POWER sufficient to satisfy the ACTION requirements of Specifications 3.2.2 and 3.2.3, or

b. Be in HOT STANDBY within 6 hours.

SURVEILLANCE REQUIREMENTS

4.10.2.1 The THERMAL POWER shall be determined to be ≤ 85% of RATED THERMAL POWER at least once per hour during PHYSICS TESTS.

4.10.2.2 The Surveillance Requirements of Specifications 4.2.2.2 and 4.2.3 shall be performed at the following frequencies during PHYSICS TESTS:

a. Specification 4.2.2.2 - At least once per 12 hours.

b. Specification 4.2.3 - At least once per 12 hours.

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ITS 3.1.8

ITS

A.1

SPECIAL TEST EXCEPTIONS

PHYSICS TESTS

LIMITING CONDITION FOR OPERATION

and the number of required channels for LCO 3.3.1 Functions 2, 3, and 6 may be reduced to 3 — A.2

Add LCO 3.4.2 — L.1

LCO 3.1.8 — 3.10.3 The limitations of Specifications 3.1.1.4, 3.1.3.1, 3.1.3.5 and 3.1.3.6 may be suspended during the performance of PHYSICS TESTS provided:

Add proposed LCO 3.1.8.a — L.1

a. The THERMAL POWER does not exceed 5% of RATED THERMAL POWER, and

b. ~~The Reactor Trip Setpoints for the OPERABLE Intermediate Range, Neutron Flux and the Power Range, Neutron Flux, Low Setpoint are set at less than or equal to 25% of RATED THERMAL POWER.~~ — A.3

Add proposed LCO 3.1.8.b — M.1

APPLICABILITY: MODE 2.

During PHYSICS TEST initiated in — A.4

ACTION:

ACTION B — With the THERMAL POWER greater than 5% of RATED THERMAL POWER, immediately open the reactor trip breakers.

Add proposed ACTION A — M.1

Add proposed ACTIONS C and D — L.1

SURVEILLANCE REQUIREMENTS

SR 3.1.8.2 — 4.10.3.1 The THERMAL POWER shall be determined to be less than or equal to 5% of RATED THERMAL POWER at least once per hour during PHYSICS TESTS.

30 minutes — M.2

~~4.10.3.2 Each Intermediate and Power Range Channel shall be subjected to a CHANNEL FUNCTIONAL TEST within 12 hours prior to initiating PHYSICS TESTS.~~ — L.2

Add proposed SR 3.1.8.1 — L.1

Add proposed SR 3.1.8.3 — M.1

CTS 3/4.10.4

M.1

EST EXCEPTION

OOLANT LOOPS

CONDITION FOR OPERATION

he limitations of Specification 3.4.1.1 may be suspended during the
ce of start up and PHYSICS TESTS provided:

The THERMAL POWER does not exceed the P-7 Interlock Setpoint, and

The Reactor Trip Setpoints for the OPERABLE Intermediate Range, Neutron Flux and the Power Range, Neutron Flux, Low Setpoint are set at less than or equal to 25% of RATED THERMAL POWER.

LITY: During operation below the P-7 Interlock Setpoint.

THERMAL POWER greater than the P-7 Interlock Setpoint, immediately
reactor trip breakers.

NCE REQUIREMENTS

The THERMAL POWER shall be determined to be less than the P-7
Setpoint at least once per hour during startup and PHYSICS TESTS.

Each Intermediate, Power Range Channel and P-7 Interlock shall be
to a CHANNEL FUNCTIONAL TEST within 12 hours prior to initiating
or PHYSICS TESTS.

OK - UNIT 2 3/4 10-4 AMENDMENT NO. 107

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ITS 5.5

ITS

A.1

3/4.11 RADIOACTIVE EFFLUENTS

LIQUID HOLDUP TANKS*

LIMITING CONDITION FOR OPERATION

Add proposed ITS 5.5.10 generic program statement

A.11

5.5.10, 5.5.10.c 3.11.1 The quantity of radioactive material contained in each of the following tanks shall be limited to less than or equal to 10 curies, excluding tritium and dissolved or entrained noble gases. LA.7

a. Outside temporary tanks.

APPLICABILITY: At all times.

ACTION:

a. ~~With the quantity of radioactive material in any of the above listed tanks exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.~~ LA.7

b. ~~The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

5.5.10.c 4.11.1 The quantity of radioactive material contained in each of the above listed tanks shall be determined to be within the above limit by analyzing a representative sample of the tank's contents at least once per 7 days when radioactive materials are being added to the tank. LA.7

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Storage Tank Radioactivity Monitoring Program Surveillance Frequencies. A.11

5.5.10.c * Tanks included in this Specifications are those outdoor tanks that are not surrounded by liners, dikes, or walls capable of holding the tanks contents and that do not have tank over flows and surrounding area drains connected to the liquid radwaste treatment system.

ITS 5.5

A.1

ITS

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

EXPLOSIVE GAS MIXTURE

LIMITING CONDITION FOR OPERATION

Add proposed ITS 5.5.10 generic program statement A.11

5.5.10, 5.5.10.a 3.11.2.1 The concentration of oxygen in the waste gas holdup system shall be limited to less than or equal to 3% by volume if the hydrogen in the system is greater than or equal to 4% by volume. LA.7

~~APPLICABILITY: At all times.~~

~~ACTION:~~

~~a. With the concentration of oxygen in the waste gas holdup system greater than 3% by volume but less than or equal to 4% by volume and containing greater than or equal to 4% hydrogen, restore the concentration of oxygen to less than or equal to 3% or reduce the hydrogen concentration to less than 4% within 96 hours.~~ LA.7

~~b. With the concentration of oxygen in the waste gas holdup system or tank greater than 4% by volume and greater than 4% hydrogen by volume without delay suspend all additions of waste gases to the system or tank and reduce the concentration of oxygen to less than or equal to 3% or the concentration of hydrogen to less than or equal to 4% within 96 hours in the system or tank.~~

~~c. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

5.5.10.a 4.11.2.1 The concentration of oxygen in the waste gas holdup system shall be determined to within the above limits by continuously monitoring the waste gases in the waste gas holdup system with the oxygen monitors required OPERABLE by Table 3.3-12 of Specification 3.3.3.9. LA.7

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Explosive Gas Radioactivity Monitoring Program Surveillance Frequencies. A.11

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ITS 5.5

A.1

ITS

3/4 LIMITING CONDITIONS FOR OPERATION AND SURVEILLANCE REQUIREMENTS
3/4.11 RADIOACTIVE EFFLUENTS

GAS STORAGE TANKS

LIMITING CONDITION FOR OPERATION

Add proposed ITS 5.5.10 generic program statement — A.11

5.5.10, 5.5.10.b — 3.11.2.2 ~~The quantity of radioactivity contained in each gas storage tank shall be limited~~ to 43,800 curies noble gas (considered as Xe-133). — LA.7

~~APPLICABILITY: At all times.~~

~~ACTION:~~

~~a. With the quantity of radioactive material in any gas storage tank exceeding the above limit, without delay suspend all additions of radioactive material to the tank and within 48 hours reduce the tank contents to within the limit.~~ — LA.7

~~b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.~~

SURVEILLANCE REQUIREMENTS

5.5.10.b — 4.11.2.2 The quantity of radioactive material contained in each gas storage tank shall be determined to be within the above limit ~~at least once per 7 days whenever radioactive materials are added to the tank and at least once per 24 hours during primary coolant system degassing operations.~~ — LA.7

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Storage Tank Radioactivity Monitoring Program Surveillance Frequencies. — A.11

A.1

ITS

4.0 5.0 DESIGN FEATURES

4.1 5.1 SITE

Exclusion Area

4.1.1 5.1.1 The exclusion area shall be as shown in Figure 5.1-1.

Low Population Zone

4.1.2 5.1.2 The low population zone shall be ~~as shown in Figure 5.1-2~~ all the land within a circle centered on the reactor containment structures and a radius of 2 miles A.2

Site Boundary For Gaseous and Liquid Effluents

4.1.1 5.1.3 The SITE BOUNDARY for gaseous and liquid effluents shall be as shown in Figure 5.1-3.

~~5.2 CONTAINMENT~~

~~CONFIGURATION~~

~~5.2.1 The reactor containment building is a steel lined, reinforced concrete building of cylindrical shape, with a dome roof and having the following design features:~~

~~a. Nominal inside diameter = 115 feet.~~

~~b. Nominal inside height = 160 feet.~~

~~c. Minimum thickness of concrete walls = 3'6".~~

~~d. Minimum thickness of concrete roof = 2'6".~~

~~e. Minimum thickness of concrete floor pad = 10 feet.~~

~~f. Nominal thickness of steel liner = 3/8 inches.~~

~~g. Net free volume = 1.24 x 10^6 cubic feet.~~

~~DESIGN PRESSURE AND TEMPERATURE~~

~~5.2.2 The reactor containment building is designed and shall be maintained in accordance with the original design provisions contained in Section 5.2.2 of the FSAR.~~

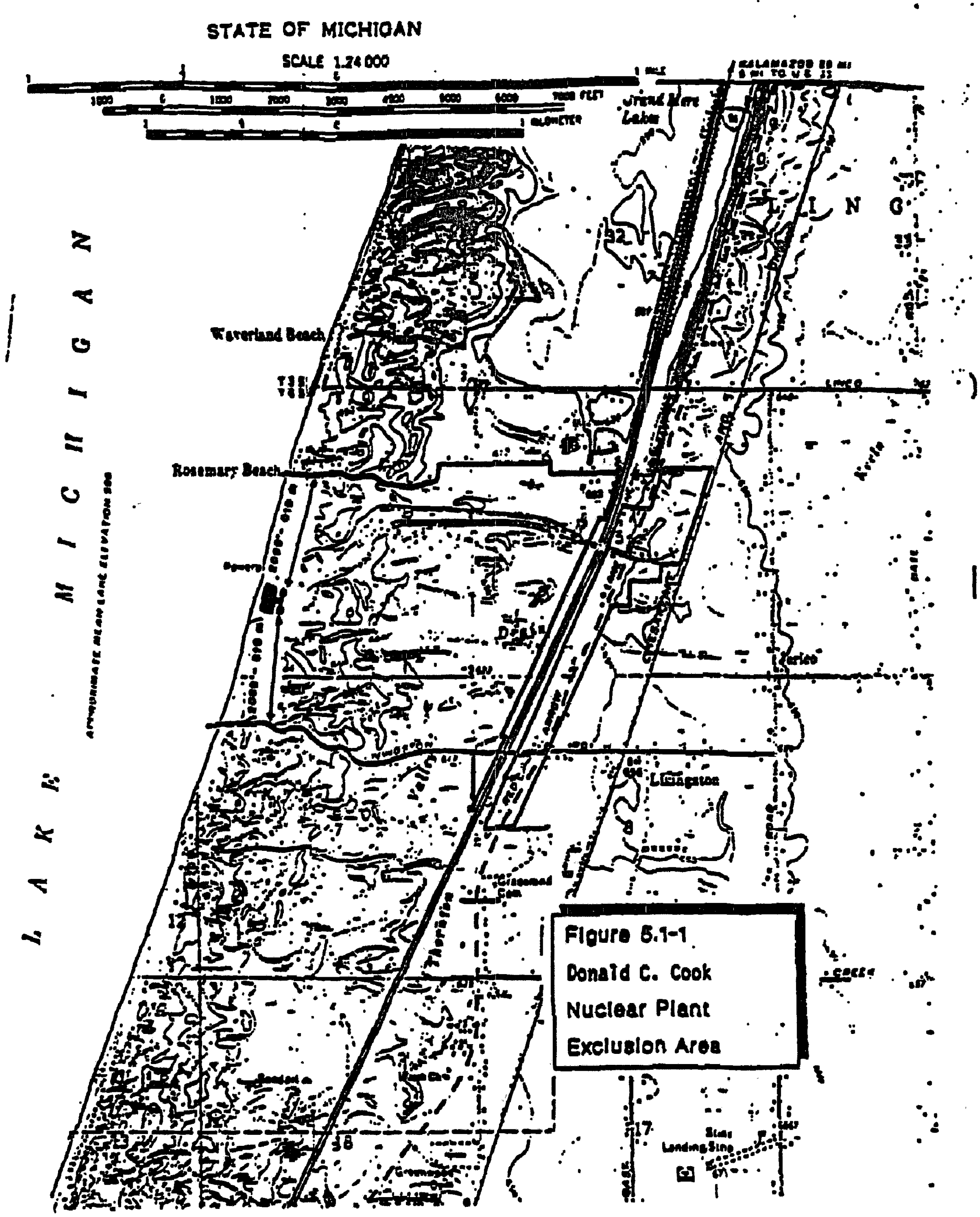
LA.1

ITS 4.0

A.1

ITS

Figure 4.1-1



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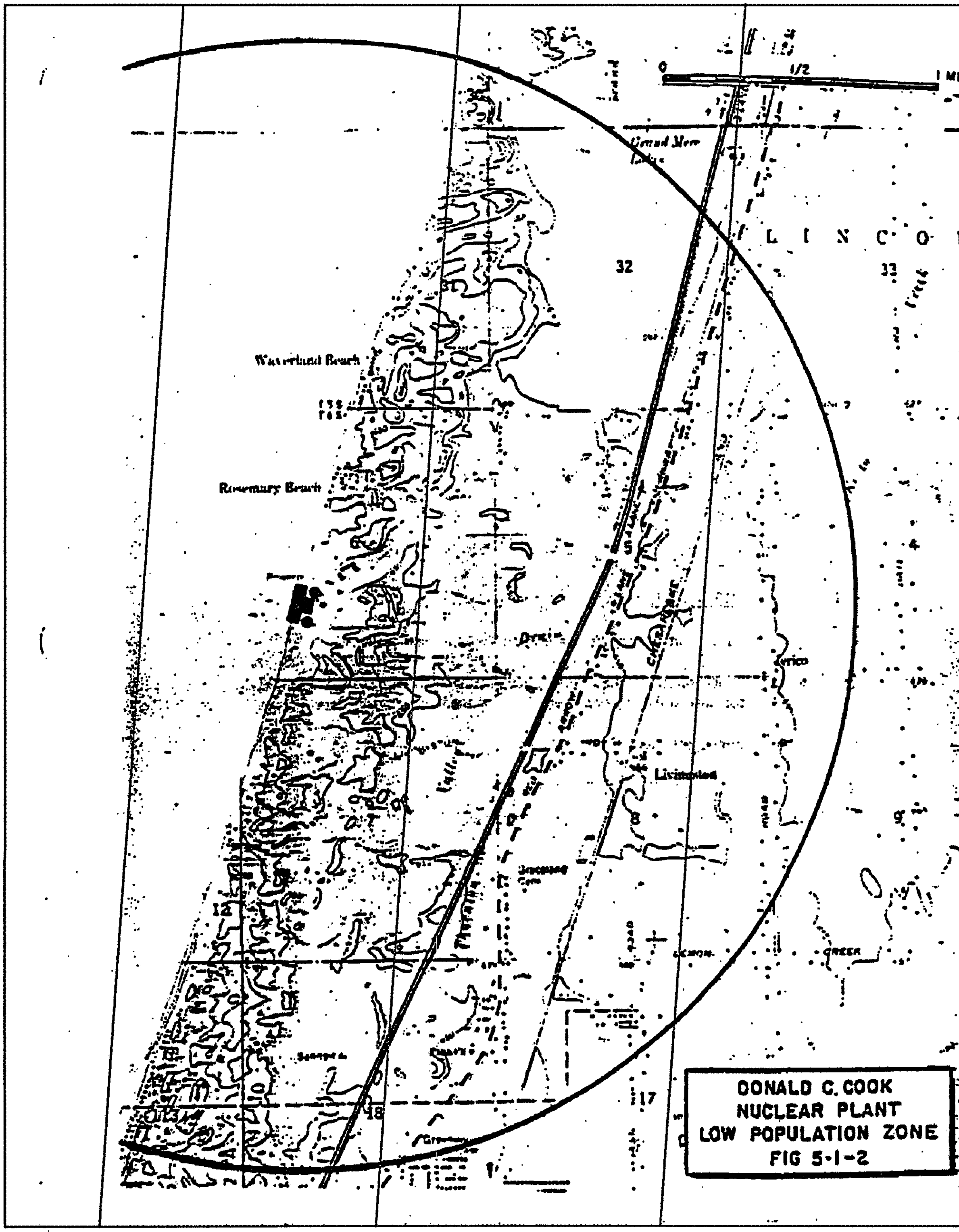
ITS 4.0

A.1

ITS



A.2

D. C. COOK-UNIT 2 5-3 Amendment No. 41

ITS 4.0

A.1

ITS

5.0 DESIGN FEATURES

4.2 5.3 REACTOR CORE

FUEL ASSEMBLIES

consisting of a matrix of

4.2.1 5.3.1 The reactor core shall contain 193 fuel assemblies with each fuel assembly ~~containing 264 fuel rods clad with~~ Zircaloy-4 or ZIRLO, except that limited substitutions of zirconium alloy or stainless steel filler rods, in accordance with NRC-approved applications of fuel rod configurations, may be used. Fuel assemblies shall be limited to those fuel designs that have been analyzed with applicable NRC staff-approved codes and methods, and shown by tests or analyses to comply with all fuel safety design bases. A limited number of lead test assemblies that have not completed representative testing may be placed in non-limiting core regions. ~~Each fuel rod shall have a nominal active fuel length of 144 inches. The initial core loading shall have a maximum enrichment of 3.3 weight percent U-235.~~ Reload fuel shall be similar in physical design to the initial core loading and may be nominally enriched up to 4.95 weight percent U-235.

fuel rods with an initial composition of natural or slightly enriched UO_2 as fuel material

4.3.1.1.a

LA.2

CONTROL ROD ASSEMBLIES

4.2.2 5.3.2 The reactor core shall contain 53 full length and no part length control rod assemblies. ~~The full length control rod assemblies shall contain a nominal 142 inches of absorber material. The nominal values of absorber material shall be 80 percent silver, 15 percent indium and 5 percent cadmium. All control rods shall be clad with stainless steel tubing.~~

The control material shall be silver indium cadmium, as approved by the NRC.

LA.3

~~5.4 REACTOR COOLANT SYSTEM~~

~~DESIGN PRESSURE AND TEMPERATURE~~

~~5.4.1 The reactor coolant system is designed and shall be maintained:~~

~~a. In accordance with the code requirements specified in Section 4.1.6 of the FSAR, with allowance for normal degradation pursuant to the applicable Surveillance Requirements.~~

~~b. For a pressure of 2485 psig, and~~

~~c. For a temperature of 650°F, except for the pressurizer which is 680°F.~~

LA.4

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ITS 3.7.16

A.1

ITS

5.0 DESIGN FEATURES

See ITS Chapter 4.0

5.5 METEOROLOGICAL TOWER LOCATION

5.5.1 The meteorological tower shall be located as shown on Figure 5.1-3.

5.6 FUEL STORAGE

CRITICALITY – SPENT FUEL

5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:

A.2

a. A K_{eff} equivalent to less than 0.95 when flooded with unborated water.

See ITS Chapter 4.0

b. A nominal 8.97-inch center-to-center distance between fuel assemblies, placed in the storage racks.

LCO 3.7.16

c. The fuel assemblies will be classified as acceptable for Region 1, Region 2, or Region 3 storage based upon their assembly burnup versus initial nominal enrichment. Cells acceptable for Region 1, Region 2, and Region 3 assembly storage are indicated in Figures 5.6-1 and 5.6-2. Assemblies that are acceptable for storage in Region 1, Region 2, and Region 3 must meet the design criteria that define the regions as follows:

See ITS Chapter 4.0

1. Region 1 is designed to accommodate new fuel with a maximum nominal enrichment of 4.95 wt% U-235, or spent fuel regardless of the discharge fuel burnup.

2. Region 2 is designed to accommodate fuel of 4.95% initial nominal enrichment burned to at least 50,000 MWD/MTU, or fuel of other enrichments with equivalent reactivity.

3. Region 3 is designed to accommodate fuel of 4.95% initial nominal enrichment burned to at least 38,000 MWD/MTU, or fuel of other enrichments with equivalent reactivity.

A.2

Add proposed LCO 3.7.16 ACTION A

A.2

Add proposed SR 3.7.16.1

M.1

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A.1

ITS

5.0 DESIGN FEATURES

~~5.5 METEOROLOGICAL TOWER LOCATION~~

~~5.5.1 The meteorological tower shall be located as shown on Figure 5.1-3.~~ LA.7

4.3 5.6 FUEL STORAGE

4.3.1 CRITICALITY – SPENT FUEL

4.3.1.1 5.6.1.1 The spent fuel storage racks are designed and shall be maintained with:

4.3.1.1.b a. A K_{eff} equivalent to less than 0.95 when flooded with unborated water.

4.3.1.1.c b. A nominal 8.97-inch center-to-center distance between fuel assemblies, placed in the storage racks.

4.3.1.1.d, 4.3.1.1.e c. The fuel assemblies will be classified as acceptable for Region 1, Region 2, or Region 3 storage based upon their assembly burnup versus initial nominal enrichment. Cells acceptable for Region 1, Region 2, and Region 3 assembly storage are indicated in Figures 5.6-1 and 5.6-2. Assemblies that are acceptable for storage in Region 1, Region 2, and Region 3 must meet the design criteria that define the regions as follows: See ITS 3.7.16

4.3.1.1.a, 4.3.1.1.d 1. Region 1 is designed to accommodate new fuel with a maximum nominal enrichment of 4.95 wt% U-235, or spent fuel regardless of the discharge fuel burnup.

4.3.1.1.e 2. Region 2 is designed to accommodate fuel of 4.95% initial nominal enrichment burned to at least 50,000 MWD/MTU, or fuel of other enrichments with equivalent reactivity.

3. Region 3 is designed to accommodate fuel of 4.95% initial nominal enrichment burned to at least 38,000 MWD/MTU, or fuel of other enrichments with equivalent reactivity. See ITS 3.7.16

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ITS 3.7.16

A.1

ITS

5.0 DESIGN FEATURES

5.6 FUEL STORAGE (Continued)

CRITICALITY - SPENT FUEL (Continued)

The equivalent reactivity criteria for Region 2 and Region 3 is defined via the following equations:

For Region 2 Storage

Table 3.7.16-1

Minimum Assembly Average Burnup in MWD/MTU =

A.2

$$-22{,}670 + 22{,}220\,E - 2{,}260\,E^2 + 149\,E^3$$

For Region 3 Storage

Minimum Assembly Average Burnup in MWD/MTU =

$$-26{,}745 + 18{,}746\,E - 1{,}631\,E^2 + 98.4\,E^3$$

Where E = Initial Peak Enrichment

COOK NUCLEAR PLANT-UNIT 2 Page 5-6 AMENDMENT ~~41, 121, 147, 152, 198, 220~~, 224

ITS 4.0

A.1

ITS

5.0 DESIGN FEATURES

4.3.1.1.e

5.6 FUEL STORAGE (Continued)

CRITICALITY - SPENT FUEL (Continued)

The equivalent reactivity criteria for Region 2 and Region 3 is defined via the following equations:

For Region 2 Storage

Minimum Assembly Average Burnup in MWD/MTU =

$$-22{,}670 + 22{,}220\,E - 2{,}260\,E^2 + 149\,E^3$$

See ITS 3.7.16

For Region 3 Storage

Minimum Assembly Average Burnup in MWD/MTU =

$$-26{,}745 + 18{,}746\,E - 1{,}631\,E^2 + 98.4\,E^3$$

Where E = Initial Peak Enrichment

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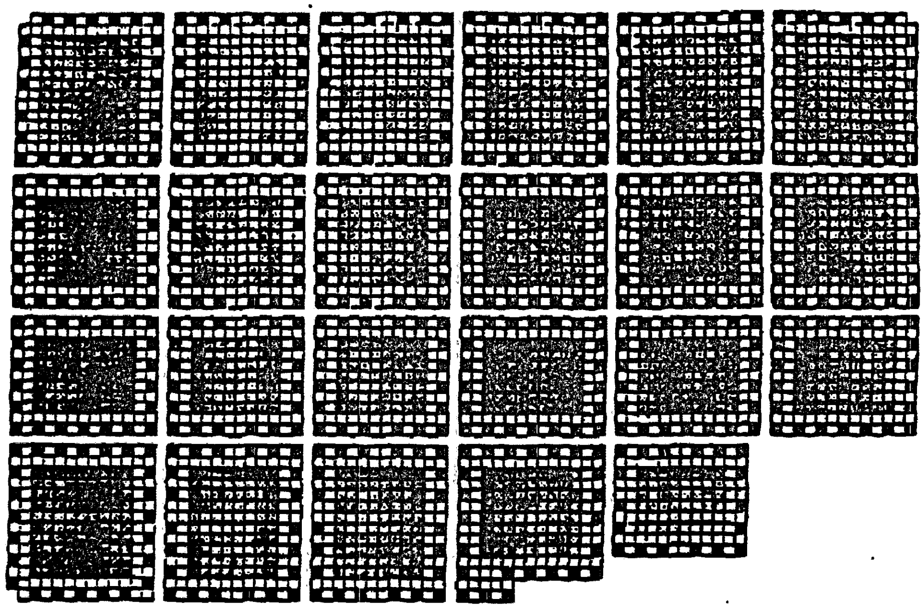
A.1

<u>ITS</u>

Figure 4.3-1

FIGURE 5.6-1: Normal Storage Pattern (Mixed Three Zone)



304 REGION 1 CELLS ~~[illegible]~~ 1439 REGION 2 CELLS ~~[illegible]~~ 1670 REGION 3 CELLS

A.3

COOK NUCLEAR PLANT - UNIT 2 5-7 AMENDMENT NO. ~~147~~, 152

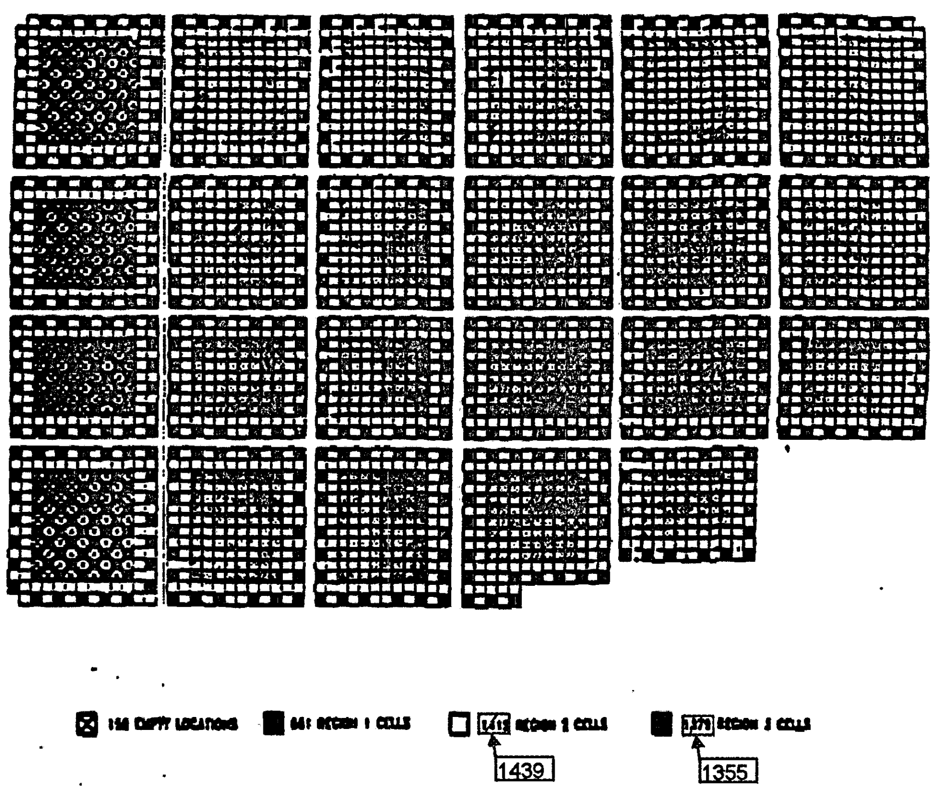
ITS 4.0

A.1

ITS

Figure 4.3-2

Figure 5.6-2: Interim Storage Pattern (Checkerboard)



A.3

COOK NUCLEAR PLANT - UNIT 2 5-7a AMENDMENT NO. 152

A.1

ITS

5.0 DESIGN FEATURES

Figure 5.6-3 intentionally deleted.

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A.1

ITS

5.0 ADMINISTRATIVE CONTROLS

5.6 FUEL STORAGE (Continued)

4.3.1.2 5.6.2 The new fuel storage racks are designed and shall be maintained with:

4.3.1.2.a a. Westinghouse fuel assemblies having either a maximum enrichment of 4.55 weight % U-235, or an enrichment between 4.55 and 4.95 weight % U-235 with the minimum number of integral fuel burnable absorber pins as shown on Figure 5.6-4 (interpolation of the Boron-10 loading between 1.0X and 1.5X and 2.0X is acceptable);

4.3.1.2.b b. $k_{eff} \leq 0.95$ if fully flooded with unborated water, which includes an allowance for uncertainties as described in Section 9.7 of the UFSAR;

4.3.1.2.c c. $k_{eff} \leq 0.98$ if moderated by aqueous foam, which includes an allowance for uncertainties as described in Section 9.7 of the UFSAR; and

4.3.1.2.d d. A nominal 21 inch center to center distance between fuel assemblies placed in the storage racks.

DRAINAGE

4.3.2 5.6.3 The spent fuel storage pool is designed and shall be maintained to prevent inadvertent draining of the pool below elevation 629'4".

CAPACITY

4.3.3 5.6.4 The spent fuel storage pool is designed and shall me maintained with a storage capacity limited to no ı than 3613 fuel assemblies.

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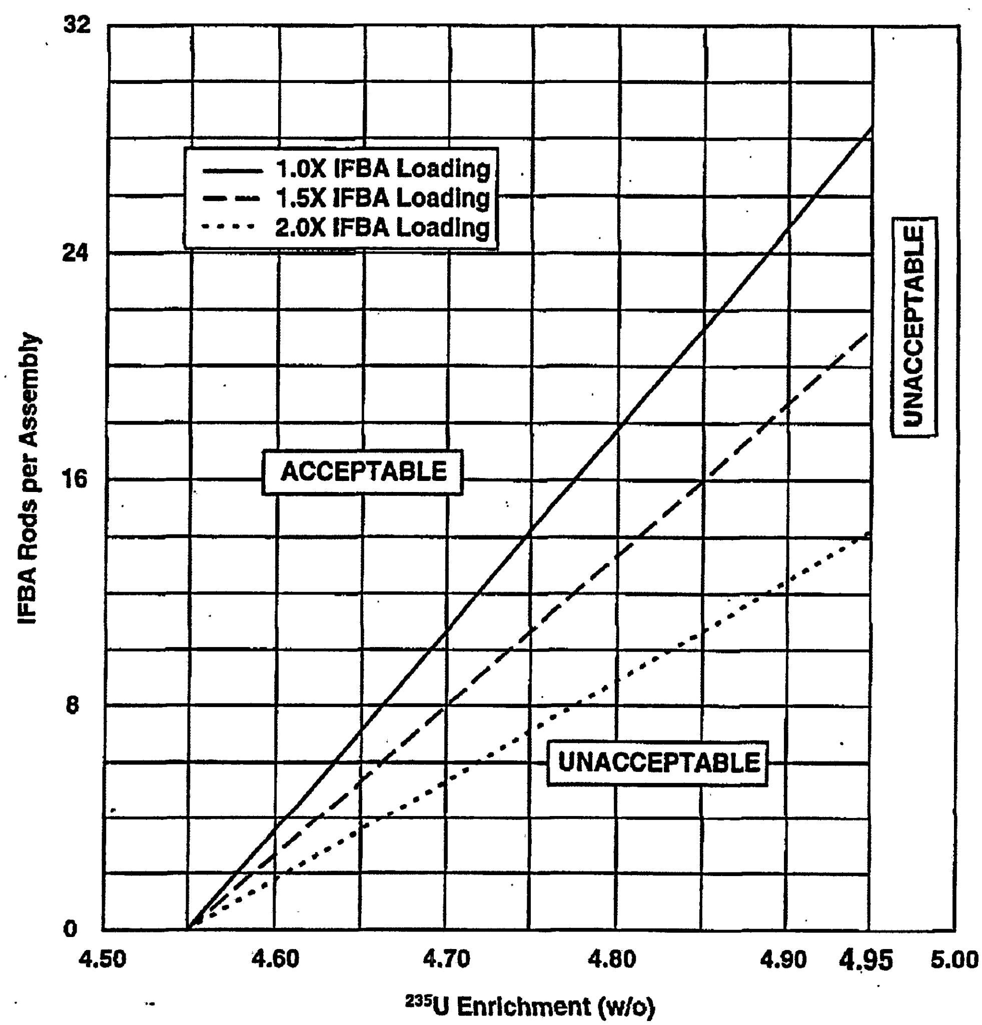
ITS 4.0

A.1

ITS

Figure 4.3-3

Figure 5.6-4: New Fuel Storage Rack Integral Fuel Burnable Absorber (IFBA) Requirements



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ITS 4.0

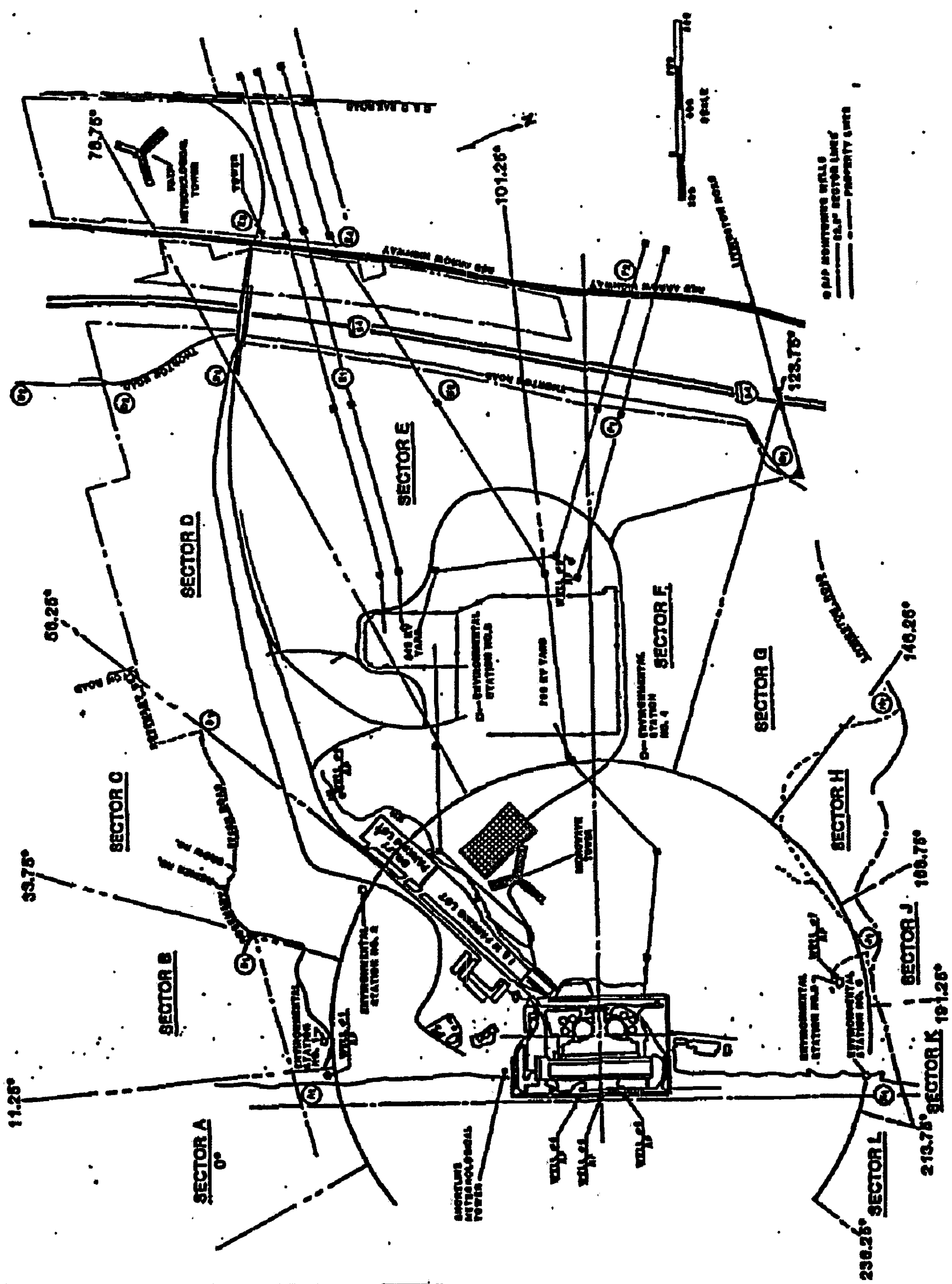
A.1

ITS

Figure 4.1-1

5.0 DESIGN FEATURES

FIGURE 5.1-3: SITE BOUNDARY FOR LIQUID AND GASEOUS EFFLUENTS



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A.1

ITS 5.1

ITS

6.0 ADMINISTRATIVE CONTROLS

5.1 6.1 RESPONSIBILITY

5.1.1 6.1.1 The Plant Manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence. INSERT 1 LA.1 M.1

5.1.2 6.1.2 The Shift Manager (or during his absence from the control room complex, a designated individual) shall be responsible for the control room command function. A management directive to this effect signed by the Site Vice President shall be reissued to all station personnel on an annual basis. M.2 A.2

6.2 ORGANIZATION

ONSITE AND OFFSITE ORGANIZATIONS

6.2.1 Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

a. Lines of authority, responsibility, and communication shall be established and defined for the highest management level through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts. These organizational charts will be documented in the UFSAR and updated in accordance with 10 CFR 50.71(e). See ITS 5.2

b. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.

c. The Senior Vice President - Nuclear Operations shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.

d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

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ITS 5.1

ITS

M.1

INSERT 1

5.1.1 The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment, or modification to systems or equipment that affects nuclear safety.

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ITS 5.2

A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

6.1 RESPONSIBILITY

6.1.1 The Plant Manager shall be responsible for overall facility operation and shall delegate in writing the succession to this responsibility during his absence.

6.1.2 The Shift Manager (or during his absence from the control room complex, a designated individual) shall be responsible for the control room command function. A management directive to this effect signed by the Site Vice President shall be reissued to all station personnel on an annual basis.

See ITS 5.1

5.2 **6.2 ORGANIZATION**

ONSITE AND OFFSITE ORGANIZATIONS

5.2.1 6.2.1 Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting the safety of the nuclear power plant.

5.2.1.a a. Lines of authority, responsibility, and communication shall be established and defined for the highest management level through intermediate levels to and including all operating organization positions. These relationships shall be documented and updated, as appropriate, in the form of organizational charts. These ~~organizational charts~~ will be documented in the UFSAR ~~and updated in accordance with 10 CFR 50.71(e).~~

INSERT 1

M.1

A.2

5.2.1.b b. The Plant Manager shall be responsible for overall unit safe operation and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.

LA.1

A specified corporate officer

5.2.1.c c. ~~The Senior Vice President - Nuclear Operations~~ shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.

LA.1

5.2.1.d d. The individuals who train the operating staff and those who carry out health physics and quality assurance functions may report to the appropriate onsite manager; however, they shall have sufficient organizational freedom to ensure their independence from operating pressures.

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ITS 5.2

ITS

M.1 **INSERT 1**

5.2.1.a requirements including the plant-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications

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A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

6.2 ORGANIZATION (Continued)

FACILITY STAFF

5.2.2 6.2.2 The Facility organization shall be subject to the following:

a. Each on duty shift shall be composed of at least the minimum shift crew composition shown in Table 6.2-1. LA.2

b. At least one licensed Operator shall be in the control room when fuel is in the reactor. In addition, while the unit is in Mode 1, 2, 3, or 4, at least one licensed Senior Operator shall be in the control room. A.3

5.2.2.c c. An individual* qualified in radiation protection procedures shall be on site when fuel is in the reactor.

d. All CORE ALTERATIONS shall be directly supervised by a licensed Senior Operator trained or qualified in refueling and CORE ALTERATIONS (SO-CA) who has no other concurrent responsibilities during this operation. A.3

5.2.2.d e. The amount of overtime worked by plant staff members performing safety-related functions must be limited in accordance with NRC Policy Statement on working hours (Generic Letter 82-12).

f. The Shift Manager and Unit Supervisor shall hold a Senior Operator License. LA.3

operations manager LA.1

5.2.2.e g. The ~~Operations Director~~ must hold or have held a Senior Operator License at Cook Nuclear Plant or a similar reactor, or have been certified for equivalent senior operator knowledge. If the ~~Operations Director~~ does not hold a Senior Operator License, then a line ~~(v. staff)~~ operations middle manager shall hold a Senior Operator License for the purposes of directing operational activities. A.1

operations manager LA.1

5.2.2.c * The unexpected absence, for a period of time not to exceed 2 hours, of the on-site individual qualified in radiation protection procedures is permitted provided immediate action is taken to fill the required position.

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ITS 5.2

A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

TABLE 6.2-1

MINIMUM SHIFT CREW COMPOSITION*

	LICENSE CATEGORY	APPLICABLE MODES 1, 2, 3 & 4	APPLICABLE MODES 5 & 6
	SM	1**	1**#
	SOL	1	None
	OL	2	1
5.2.2.a	Non-Licensed	2	1
5.2.2.f	~~Shift Technical Adv.~~ INSERT 2	1**	None

LA.2

M.2

~~# Does not include the licensed Senior Operator - CA supervising CORE ALTERATIONS.~~ LA.2

5.2.2.b * Shift crew composition may be less than the minimum requirements for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements of Table 6.2-1.

5.2.2.f ** Shared with Cook Nuclear Plant Unit 1

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ITS 5.2

ITS

M.2 **INSERT 2**

5.2.2.f An individual shall provide advisory technical support to unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to safe operation of the unit.

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ITS 5.2

A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

6.3 FACILITY STAFF QUALIFICATIONS

See ITS 5.3

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Plant Radiation Protection Manager, who shall meet or exceed qualifications of Regulatory Guide 1.8, September 1975, (2) the Shift Technical Advisor, who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents and, (3) the Operations Director, who must be qualified as specified in Section 6.2.2.g.

5.2.2.f

A.4

See ITS 5.3

6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55.

See CTS 6.0

6.5 DELETED

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A.1

ITS 5.3

ITS

6.0 ADMINISTRATIVE CONTROLS

5.3 6.3 FACILITY STAFF QUALIFICATIONS

LA.1

5.3.1 6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Plant Radiation Protection Manager, who shall meet or exceed qualifications of Regulatory Guide 1.8, September 1975, (2) the Shift Technical Advisor, who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents and, (3) the Operations Director, who must be qualified as specified in Section 6.2.2.g.

See ITS 5.2

manager

LA.1

Add proposed Specification 5.3.2

A.2

6.4 TRAINING

6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55.

See CTS 6.0

6.5 DELETED

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6.0 ADMINISTRATIVE CONTROLS

6.3 FACILITY STAFF QUALIFICATIONS

6.3.1 Each member of the facility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for (1) the Plant Radiation Protection Manager, who shall meet or exceed qualifications of Regulatory Guide 1.8, September 1975, (2) the Shift Technical Advisor, who shall have a bachelor's degree or equivalent in a scientific or engineering discipline with specific training in plant design, and response and analysis of the plant for transients and accidents and, (3) the Operations Director, who must be qualified as specified in Section 6.2.2.g.

See ITS 5.2 and ITS 5.3

~~6.4 TRAINING~~

~~6.4.1 A retraining and replacement training program for the facility staff shall be maintained under the direction of the Training Manager and shall meet or exceed the requirements and recommendations of Section 5.5 of ANSI N18.1-1971 and 10 CFR Part 55.~~

LA.1

6.5 DELETED

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A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

6.6 REPORTABLE EVENT ACTION

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 10 CFR 50.73.

b. Each REPORTABLE EVENT shall be reviewed by the PORC, and the results of this review shall be submitted to the NSRB and the Site Vice President.

See CTS Chapter 6.0

6.7 SAFETY LIMIT VIOLATION

2.2 6.7.1 The following actions shall be taken in the event a safety limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Chairman of the NSRB shall be notified within 24 hours.

A.3

LA.2

b. A Safety Limit Violation Report shall be prepared. ~~This report shall be reviewed by the PORC.~~ The report shall describe (1) applicable circumstances preceding the violation; (2) effects of the violation upon facility components, systems or structures; and (3) corrective action taken to prevent recurrence.

A.3

c. ~~The Safety Limit Violation Report shall be submitted to the Commission,~~ the Chairman of the NSRB and the Senior Vice President – Nuclear Operations within 14 days of the violation.

LA.2

d. Operation of the unit shall not be resumed until authorized by the Commission.

A.3

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6.0 ADMINISTRATIVE CONTROLS

~~6.6 REPORTABLE EVENT ACTION~~

~~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 10 CFR 50.73.~~

A.1

~~b. Each REPORTABLE EVENT shall be reviewed by the PORC, and the results of this review shall be submitted to the NSRB and the Site Vice President.~~

LA.2

6.7 SAFETY LIMIT VIOLATION

6.7.1 The following actions shall be taken in the event a safety limit is violated:

a. The NRC Operations Center shall be notified by telephone as soon as possible and in all cases within 1 hour. The Chairman of the NSRB shall be notified within 24 hours.

b. A Safety Limit Violation Report shall be prepared. This report shall be reviewed by the PORC. The report shall describe (1) applicable circumstances preceding the violation; (2) effects of the violation upon facility components, systems or structures; and (3) corrective action taken to prevent recurrence.

See ITS Chapter 2.0

c. The Safety Limit Violation Report shall be submitted to the Commission, the Chairman of the NSRB and the Senior Vice President – Nuclear Operations within 14 days of the violation.

d. Operation of the unit shall not be resumed until authorized by the Commission.

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A.1

ITS 5.4

ITS

6.0 ADMINISTRATIVE CONTROLS

5.4 6.8 PROCEDURES AND PROGRAMS — See ITS 5.5

5.4.1 6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

5.4.1.a a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Rev. 2, February 1978.

Add proposed Specification 5.4.1.b — M.1

b. Deleted.

c. Deleted.

~~d. PROCESS CONTROL PROGRAM implementation.~~ — LA.1

5.4.1.e e. OFFSITE DOSE CALCULATION MANUAL ~~implementation.~~ — A.2

5.4.1.c f. Quality Assurance Program for effluent and environmental monitoring ~~using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974, and Regulatory Guide 4.1, Rev. 1, April 1975.~~ — LA.2

5.4.1.e ~~g. Component Cyclic or Transient Limits program, which provides controls to track the UFSAR, Section 4.1, cyclic and transient occurrences to ensure that components are maintained within the limits.~~ — A.2

5.4.1.d h. Fire Protection Program implementation.

~~6.8.2 Each procedure and administrative policy of Specification 6.8.1 above, and changes thereto, including temporary changes, shall be reviewed prior to implementation as set forth in Qualification Assurance Program Description, Appendix C, Section 6.5.~~ — LA.3

6.8.3 Deleted.

Add proposed Specification 5.4.1.e — M.2

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ITS 5.5

A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

6.8 PROCEDURES AND PROGRAMS

6.8.1 Written procedures shall be established, implemented and maintained covering the activities referenced below:

a. The applicable procedures recommended in Appendix "A" of Regulatory Guide 1.33, Rev. 2, February 1978. See ITS 5.4

b. Deleted.

c. Deleted.

d. PROCESS CONTROL PROGRAM implementation.

e. OFFSITE DOSE CALCULATION MANUAL implementation.

f. Quality Assurance Program for effluent and environmental monitoring using the guidance in Regulatory Guide 1.21, Rev. 1, June 1974, and Regulatory Guide 4.1, Rev. 1, April 1975.

5.5.4 g. Component Cyclic or Transient Limits program, which provides controls to track the UFSAR, Section 4.1, cyclic and transient occurrences to ensure that components are maintained within the limits. A.12

h. Fire Protection Program implementation.

6.8.2 Each procedure and administrative policy of Specification 6.8.1 above, and changes thereto, including temporary changes, shall be reviewed prior to implementation as set forth in Qualification Assurance Program Description, Appendix C, Section 6.5. See ITS 5.4

6.8.3 Deleted.

ITS

A.1

6.0 ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

5.5 6.8.4 The following programs shall be established, implemented, and maintained:

5.5.3 a. Radioactive Effluent Controls Program

5.5.3 A program shall be provided conforming with 10 CFR 50.36a for the control of radioactive effluents and for maintaining the doses to MEMBERS OF THE PUBLIC from radioactive effluents as low as reasonably achievable. The program (1) shall be contained in the ODCM, (2) shall be implemented by operating procedures, and (3) shall include remedial actions to be taken whenever the program limits are exceeded. The program shall include the following elements:

5.5.3.a 1) Limitations on the operability of radioactive liquid and gaseous monitoring instrumentation including surveillance tests and setpoint determination in accordance with the methodology in the ODCM,

5.5.3.b 2) Limitations on the concentrations of radioactive material released in liquid effluents to UNRESTRICTED AREAS conforming to 10 CFR 20.1001-20.2402, Appendix B, Table 2, Column 2,

5.5.3.c 3) Monitoring, sampling, and analysis of radioactive liquid and gaseous effluents pursuant to 10 CFR 20.1302 and with the methodology and parameters in the ODCM,

5.5.3.d 4) Limitations on the annual and quarterly doses or dose commitment to a MEMBER OF THE PUBLIC from radioactive materials in liquid effluents released from each unit to UNRESTRICTED AREAS conforming to Appendix I to 10 CFR Part 50,

5.5.3.e 5) Determination of cumulative and projected dose contributions from radioactive effluents for the current calendar quarter and current calendar year in accordance with the methodology and parameters in the ODCM at least every 31 days,

5.5.3.f 6) Limitations on the operability and use of the liquid and gaseous effluent treatment systems to ensure that the appropriate portions of these systems are used to reduce releases of radioactivity when the projected doses in a 31-day period would exceed 2 percent of the guidelines for the annual dose or dose commitment conforming to Appendix I to 10 CFR Part 50,

ITS 5.5

A.1

ITS

6.0 ADMINISTRATIVE CONTROLS

PROCEDURES AND PROGRAMS (Continued)

5.5.3.g 7) Limitations on the dose rate resulting from radioactive material released in gaseous effluents to areas beyond the SITE BOUNDARY shall be limited to the following:

a) For noble gases: Less than or equal to a dose rate of 500 mrem/year to the total body and less than or equal to a dose rate of 3000 mrem/year to the skin, and

b) For Iodine-131, Iodine-133, tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to a dose rate of 1500 mrem/year to any organ.

5.5.3.h 8) Limitations on the annual and quarterly air doses resulting from noble gases released in gaseous effluents from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50,

5.5.3.i 9) Limitations on the annual and quarterly doses to a MEMBER OF THE PUBLIC from Iodine-131, Iodine-133, tritium, and all radionuclides in particulate form with half-lives greater than 8 days in gaseous effluents released from each unit to areas beyond the SITE BOUNDARY conforming to Appendix I to 10 CFR Part 50, and

5.5.3.j 10) Limitations on the annual dose or dose commitment to any MEMBER OF THE PUBLIC due to releases of radioactivity and to radiation from uranium fuel cycle sources conforming to 40 CFR Part 190.

A.2

The provisions of SR 3.0.2 and SR 3.0.3 are applicable to the Radioactive Effluent Control Program Surveillance Frequencies.

b. ~~Radiological Environmental Monitoring Program~~

~~A program shall be provided to monitor the radiation and radionuclides in the environs of the plant. The program shall provide (1) representative measurements of radioactivity in the highest potential exposure pathways, and (2) verification of the accuracy of the effluent monitoring program and modeling of environmental exposure pathways. The program shall (1) be contained in the ODCM, (2) conform to the guidance of Appendix I to 10 CFR Part 50, and (3) include the following:~~

LA.1

~~1) Monitoring, sampling, analysis, and reporting of radiation and radionuclides in the environment in accordance with the methodology and parameters in the ODCM,~~

~~2) A Land Use Census to ensure that changes in the use of areas at and beyond the SITE BOUNDARY are identified and that modifications to the monitoring program are made if required by the results of this census, and~~

~~3) Participation in a Interlaboratory Comparison Program to ensure that independent checks on the precision and accuracy of the measurements of radioactive materials in environmental sample matrices are performed as part of the quality assurance program for environmental monitoring.~~

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5.6 6.9 REPORTING REQUIREMENTS

ROUTINE REPORTS

5.6 6.9.1 In addition to the applicable reporting requirements of Title 10, Code of Federal Regulations, the following reports shall be submitted ~~to the Regional Administrator unless otherwise noted~~. in accordance with 10 CFR 50.4 A.2

~~STARTUP REPORT~~

~~6.9.1.1 A summary report of plant startup and power escalation testing shall be submitted following (1) receipt of an operating license, (2) amendment to the license involving a planned increase in power level, (3) installation of fuel that has a different design or has been manufactured by a different fuel supplier, and (4) modifications that may have significantly altered the nuclear, thermal, or hydraulic performance of the plant.~~ L.1

~~6.9.1.2 The startup report shall address each of the tests identified in the FSAR and shall include a description of the measured values of the operating conditions or characteristics obtained during the test program and a comparison of these values with design predictions and specifications. Any corrective actions that were required to obtain satisfactory operation shall also be described. Any additional specific details required in license conditions based on other commitments shall be included in this report.~~

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~~STARTUP REPORT (Continued)~~

~~6.9.1.3 Startup reports shall be submitted within (1) 90 days following completion of the startup test program, (2) 90 days following resumption or commencement of commercial power operation, or (3) 9 months following initial criticality, whichever is earliest. If the Startup Report does not cover all three events (i.e., initial criticality, completion of startup test program, and resumption or commencement of commercial power operation), supplementary reports shall be submitted at least every three months until all three events have been completed.~~ L.1

ANNUAL REPORTS[1]

by April 30 (for Occupational Radiation Exposure Report) L.2

5.6.1, 5.6.7 6.9.1.4 Annual reports covering the activities of the unit as described below for the previous calendar year shall be submitted ~~prior to March 1~~ of each year. ~~The initial report shall be submitted prior to March 1 of the year following initial criticality.~~ A.3

6.9.1.5 Reports required on an annual basis shall include:

5.6.1 a. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving annual exposures greater than 100 mrem according to work and job functions[2], e.g., reactor operations and surveillance, in-service inspection, routine maintenance, special maintenance (describe maintenance), waste processing and refueling. Also included is a tabulation of the total person rem exposures for station, utility, and other personnel associated with each work and job function. The dose assignment to various duty functions may be estimates based on pocket dosimeter, electronic dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total deep dose received shall be assigned to specific major work functions.

5.6.7 b. The complete results of steam generator tube in-service inspections performed during the report period (reference Specification 4.4.5.5.b).

~~c. Documentation of all challenges to the pressurizer power operated relief valves (PORVs) or safety valves.~~ L.3

~~d. Information regarding any instances when the I-131 specific activity limit was exceeded.~~ L.4

5.6.1 Note [1] A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station.

5.6.1 [2] This tabulation supplements the requirements of 20.2206 of 10 CFR Part 20.

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ANNUAL RADIOLOGICAL ENVIRONMENTAL OPERATING REPORT[3]

by May 15 — L.2

5.6.2 6.9.1.6 The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted ~~before May 1~~ of each year. The report shall include summaries, interpretations, and analysis of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in (1) the ODCM and (2) Sections IV.B.2, IV.B.3, and IV.C of Appendix I to 10 CFR Part 50.

INSERT 1 — M.1

~~ANNUAL~~ RADIOACTIVE EFFLUENT RELEASE REPORT[3] — A.1

5.6.3 6.9.1.7 The ~~Annual~~ Radioactive Effluent Release Report covering the operation of the unit during the previous 12 months of operation shall be submitted within 90 days after January 1 of each year. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be (1) consistent with the objectives outlined in the ODCM and PCP and (2) in conformance with 10 CFR 50.36a and Section IV.B.1 of Appendix I to 10 CFR Part 50.

5.6.2 Note, 5.6.3 Note

[3] A single submittal may be made for a multiple unit station. The submittal should combine those sections that are common to all units at the station~~; however, for units with separate radwaste systems, the submittal shall specify the releases of radioactive material for each unit.~~ — A.9

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M.1 **INSERT 1**

5.6.2 The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

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MONTHLY REACTOR OPERATING REPORT

5.6.4 6.9.1.8 Routine reports of operating statistics and shutdown experience, ~~including documentation of all challenges to the PORVs or safety valves,~~ shall be submitted on a monthly basis to the U.S. Nuclear Regulatory Commission (Attn: Document Control Desk), Washington, D.C. 20555, with a copy to the Regional Office no later than the 15th of each month following the calendar month covered by the report. L.3 A.4

5.6.5 CORE OPERATING LIMITS REPORT

5.6.5.a 6.9.1.9.1 Core operating limits shall be established and documented in the CORE OPERATING LIMITS REPORT before each reload cycle or any remaining part of a reload cycle for the following:

Reactor Core Safety Limits; SHUTDOWN MARGIN;

a. Moderator Temperature Coefficient Limits for Specification 3/4.1.1.4, A.5

b. ~~Rod Drop Time Limits for Specification 3/4.1.3.4,~~

c. Shutdown Rod Insertion Limits for Specification 3/4.1.3.5,

d. Control Rod Insertion Limits for Specification 3/4.1.3.6, A.6

e. Axial Flux Difference for Specification 3/4.2.1,

f. Heat Flux Hot Channel Factor for Specification 3/4.2.2,

g. Nuclear Enthalpy Rise Hot Channel Factor for Specification 3/4.2.3, and

h. Allowable Power Level for Specification 3/4.2.6.

RTS Instrumentation Overpressure ΔT and Overpower ΔT Allowable Value parameter values; RCS Pressure, Temperature, and Flow DNB Limits; and Boron Concentration.

5.6.5.b 6.9.1.9.2 The analytical methods used to determine the core operating limits shall be those previously reviewed and approved by the NRC in:

a. WCAP-9272-P-A, "Westinghouse Reload Safety Evaluation Methodology," ~~July 1985~~ (Westinghouse Proprietary), LA.1

b. WCAP-8385, "Power Distribution Control and Load Following Procedures - Topical Report," ~~September 1974~~ (Westinghouse Proprietary),

c. WCAP-10216-P-A, ~~Revision 1A,~~ "Relaxation of Constant Axial Offset Control/F_Q Surveillance Technical Specification," ~~February 1994~~ (Westinghouse Proprietary),

d. WCAP-10266-P-A ~~Rev. 2,~~ "The 1981 Version of Westinghouse Evaluation Mode Using BASH Code," ~~March 1987~~ (Westinghouse Proprietary).

e. WCAP-12610-P-A, "VANTAGE+ Fuel Assembly Reference Core Report," ~~July 1991~~ (Westinghouse Proprietary).

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6.0 ADMINISTRATIVE CONTROLS

CORE OPERATING LIMITS REPORT (Continued)

5.6.5.c 6.9.1.9.3 The core operating limits shall be determined so that all applicable limits (e.g., fuel thermal-mechanical limits, core thermal-hydraulic limits, ECCS limits, nuclear limits such as shutdown margin, and transient and accident analysis limits) of the safety analysis are met.

5.6.5.d 6.9.1.9.4 The CORE OPERATING LIMITS REPORT, including any mid-cycle revisions or supplements thereto, shall be provided upon issuance, for each reload cycle, to the NRC ~~document control desk with copies to the Regional Administrator and Resident Inspector~~. A.4

~~SPECIAL REPORTS~~

~~6.9.2 Special reports shall be submitted to the attention of the document control desk - U.S. Nuclear Regulatory Commission (Washington, D.C. 20555), with copies to the Region III Administrator and the Resident Inspector at the Cook Nuclear Plant within the time period specified for each report. These reports shall be submitted covering the activities identified below pursuant to the requirements of the applicable reference specification:~~

~~a. Inoperable Seismic Monitoring Instrumentation, Specification 3.3.3.3.~~

~~b. Seismic Monitoring Instrumentation Actuated, Specification 4.3.3.3.2.~~

~~c. Inoperable Meteorological Monitoring Instrumentation, Specification 3.3.3.4.~~ A.7

~~d. High Specific Activity in RCS Coolant, Specification 3.4.8.~~

~~e. RCS Pressure Transient Mitigated By RHR Safety Valve or RCS Vent(s), Specification 3.4.9.3.~~

~~f. Moderator Temperature Coefficient, Specification 3.1.1.4.~~

~~g. Sealed Source Leakage in Excess of Limits, Specification 4.7.7.1.3.~~

~~h. ECCS Actuation, Specifications 3.5.2 and 3.5.3.~~

~~i. Violation of Safety Limit, Specification 6.7.1.~~

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6.0 ADMINISTRATIVE CONTROLS

6.11 RADIATION PROTECTION PROGRAM

Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure. See CTS 6.0

6.12 HIGH RADIATION AREA

5.7 5.7.1 6.12.1 Pursuant to 10 CFR 20.1601(c), in lieu of the requirements of 10 CFR 20.1601(a) and (b), each high radiation area in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 100 mrem but less than or equal to 1000 mrem in 1 hour at 30 cm from the radiation source or 30 cm from any surface that the radiation penetrates, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following:

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made aware of it.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Plant Radiation Protection Manager in the Radiation Work Permit. LA.1

5.7.2 6.12.2 The requirements of 6.12.1 shall also apply to each high radiation area in which the radiation level at 30 cm from the radiation source or 30 cm from any surface that the radiation penetrates is greater than 1000 mrem in 1 hour. When possible, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under the administrative control of the Shift Manager on duty and/or the Plant Radiation Protection Manager. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work areas. In the event that it is not possible or practicable to provide locked doors due to area size or configuration, the area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device. LA.1

5.7.1 * Health Physics (Radiation Protection) personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

6.0 ADMINISTRATIVE CONTROLS

~~6.11 RADIATION PROTECTION PROGRAM~~

~~Procedures for personnel radiation protection shall be prepared consistent with the requirements of 10 CFR Part 20 and shall be approved, maintained and adhered to for all operations involving personnel radiation exposure.~~ LA.3

6.12 HIGH RADIATION AREA

6.12.1 Pursuant to 10 CFR 20.1601(c), in lieu of the requirements of 10 CFR 20.1601(a) and (b), each high radiation area in which radiation levels from radiation sources external to the body could result in an individual receiving a dose equivalent in excess of 100 mrem but less than or equal to 1000 mrem in 1 hour at 30 cm from the radiation source or 30 cm from any surface that the radiation penetrates, shall be barricaded and conspicuously posted as a high radiation area and entrance thereto shall be controlled by requiring issuance of a Radiation Work Permit*. Any individual or group of individuals permitted to enter such areas shall be provided with or accompanied by one or more of the following: See ITS 5.7

a. A radiation monitoring device which continuously indicates the radiation dose rate in the area.

b. A radiation monitoring device which continuously integrates the radiation dose rate in the area and alarms when a preset integrated dose is received. Entry into such areas with this monitoring device may be made after the dose rate level in the area has been established and personnel have been made aware of it.

c. An individual qualified in radiation protection procedures who is equipped with a radiation dose rate monitoring device. This individual shall be responsible for providing positive control over the activities within the area and shall perform periodic radiation surveillance at the frequency specified by the Plant Radiation Protection Manager in the Radiation Work Permit.

6.12.2 The requirements of 6.12.1 shall also apply to each high radiation area in which the radiation level at 30 cm from the radiation source or 30 cm from any surface that the radiation penetrates is greater than 1000 mrem in 1 hour. When possible, locked doors shall be provided to prevent unauthorized entry into such areas, and the keys shall be maintained under the administrative control of the Shift Manager on duty and/or the Plant Radiation Protection Manager. Doors shall remain locked except during periods of access by personnel under an approved RWP which shall specify the dose rate levels in the immediate work areas. In the event that it is not possible or practicable to provide locked doors due to area size or configuration, the area shall be roped off, conspicuously posted and a flashing light shall be activated as a warning device.

* Health Physics (Radiation Protection) personnel shall be exempt from the RWP issuance requirement during the performance of their assigned radiation protection duties, provided they comply with approved radiation protection procedures for entry into high radiation areas.

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6.0 ADMINISTRATIVE CONTROLS

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 Changes to the PCP:

a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program Description, Appendix C, Section 6.10.2.n. This documentation shall contain: See CTS 6.0

1. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2. A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.

b. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

5.5.1.c 6.14.1 Changes to the ODCM:

5.5.1.c.1 a. Shall be documented and records of reviews performed shall be retained ~~as required by the Quality Assurance Program Description, Appendix C, Section 6.10.2.n~~. This documentation shall contain: LA.8

5.5.1.c.1.a) 1. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

5.5.1.c.1.b) 2. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

5.5.1.c.2 b. Shall become effective after ~~review and acceptance by the PORC and~~ the approval of the plant manager. LA.8 LA.9

5.5.1.c.3 c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

Add proposed ITS 5.5.12, ITS 5.5.13, and ITS 5.5.15 M.2

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6.0 ADMINISTRATIVE CONTROLS

6.13 PROCESS CONTROL PROGRAM (PCP)

6.13.1 Changes to the PCP:

a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program Description, Appendix C, Section 6.10.2.n. This documentation shall contain:

1. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2. A determination that the change will maintain the overall conformance of the solidified waste product to existing requirements of Federal, State, or other applicable regulations.

b. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

LA.4

6.14 OFFSITE DOSE CALCULATION MANUAL (ODCM)

6.14.1 Changes to the ODCM:

a. Shall be documented and records of reviews performed shall be retained as required by the Quality Assurance Program Description, Appendix C, Section 6.10.2.n. This documentation shall contain:

1. Sufficient information to support the change together with the appropriate analyses or evaluations justifying the change(s) and

2. A determination that the change will maintain the level of radioactive effluent control pursuant to 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and Appendix I to 10 CFR Part 50 and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations.

b. Shall become effective after review and acceptance by the PORC and the approval of the Plant Manager.

c. Shall be submitted to the Commission in the form of a complete, legible copy of the entire ODCM as a part of or concurrent with the Annual Radioactive Effluent Release Report for the period of the report in which any change to the ODCM was made. Each change shall be identified by markings in the margin of the affected pages, clearly indicating the area of the page that was changed, and shall indicate the date (e.g., month/year) the change was implemented.

See ITS 5.5

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