ENCLOSURE 2

VOLUME 3

ST. LUCIE PLANT
UNIT 1 AND UNIT 2

IMPROVED TECHNICAL SPECIFICATIONS CONVERSION

ITS CHAPTER 1.0
USE AND APPLICATION

Revision 0

LIST OF ATTACHMENTS

1. ITS Chapter 1.0, Definitions

ATTACHMENT 1

ITS Chapter 1.0, Definitions

Current Technical Specifications (CTS) Markup
and Discussion of Changes (DOCs)

1.~~0~~ DEFINITIONS

1

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications.

Term | Definition | and Bases

A12

ACTIONS

ACTION S

~~1.1~~ ACTION shall be that part of a specification ~~which~~ prescribes ~~remedial measures required~~ under designated conditions.

that | Required Actions to be taken | within specified Completion Times

A01

AXIAL SHAPE INDEX (ASI)

AXIAL SHAPE INDEX (ASI)

half of the core, | ASI shall be | generated in | half of the core | generated in

~~1.2~~ ~~The AXIAL SHAPE INDEX (Y_E) is~~ the power ~~level detected by~~ the lower ~~excore nuclear instrument detectors (L)~~ less the power ~~level detected by~~ the upper ~~excore nuclear instrument detectors (U)~~ divided by the sum of the~~se~~ power ~~levels. The AXIAL SHAPE INDEX (Y_I) used for the trip and pretrip signals in the reactor protection system is the above value (Y_E) modified by an appropriate multiplier (A) and a constant (B) to determine the true core axial power distribution for that channel.~~

LA01

generated in the lower and upper halves of the core.

$$\cancel{Y_E} = \frac{L - U}{L + U} \qquad \cancel{Y_I = AY_E + B}$$

ASI = (LOWER – UPPER) / LOWER + UPPER)

AZIMUTHAL POWER TILT (T_q)

AZIMUTHAL POWER TILT ~~–~~ T_q

(P_{quad}) | of the

~~1.3~~ AZIMUTHAL POWER TILT shall be the maximum difference between the power generated in any core quadrant (upper or lower) and the average power of all quadrants in that half (upper or lower) of the core divided by the average power of all quadrants in that half (upper or lower) of the core.

(P_{avg}) | ,

$$\text{AZIMUTHAL POWER TILT} = \max\left[\frac{\text{Power in any core quadrant (upper or lower)}}{\text{Average power of all quadrants (upper or lower)}}\right] - 1$$

T_q = MAX | (P_{quad} – P_{avg}) / P_{avg} |

A01

CHANNEL CALIBRATION

CHANNEL CALIBRATION

that

~~1.4~~ 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.~~

INSERT 1 | A02

all devices in | means of | required for channel OPERABILITY | INSERT 2

CHANNEL CHECK

CHANNEL CHECK

, by observation,

~~1.5~~ 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 indica~~-~~tions ~~and/~~or status derived from independent instrument channels measuring the same parameter.

to | A02

A02 **INSERT 1**

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.

A02 **INSERT 2**

, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

1.1 ~~DEFINITIONS~~

CHANNEL FUNCTIONAL TEST

CHANNEL FUNCTIONAL TEST

L01 A01 A03

~~1.6~~ A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated or actual signal into the channel as close to the ~~primary~~ sensor as practicable to verify OPERABILITY Insert 3 ~~including alarm and/or trip functions.~~

CONTAINMENT VESSEL INTEGRITY

A04

1.7 CONTAINMENT VESSEL INTEGRITY shall exist when:

a. All containment vessel penetrations required to be closed during accident conditions are either: See ITS 3.6.1

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

2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed position except for valves that are open on an intermittent basis under administrative control. See ITS 3.6.3

b. All containment vessel equipment hatches are closed and sealed,

c. Each containment vessel air lock is in compliance with the requirements of Specification 3.6.1.3, See ITS 3.6.2

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

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

~~CONTROLLED LEAKAGE~~

~~1.8 CONTROLLED LEAKAGE shall be the seal water flow supplied from the reactor coolant pump seals~~.

~~CORE ALTERATION~~

A04

~~1.9 CORE ALTERATION shall be the movement or manipulation of any fuel, sources, reactivity control components, or other components affecting reactivity within the reactor vessel with the vessel head removed and fuel in the vessel. Exceptions to the above include shared (4 fingered) control element assemblies (CEAs) withdrawn into the upper guide structure (UGS) or evolutions performed with the UGS in place such as CEA latching/unlatching or verification of latching/ unlatching which do not constitute a CORE ALTERATION. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.~~

CORE OPERATING LIMITS REPORT (COLR)

CORE OPERATING LIMITS REPORT (COLR)

A01

~~1.9a~~ THE COLR is the unit~~-~~specific document that provides cycle specific parameter limits for the current ~~operating~~ reload cycle. These cycle~~-~~specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.3 ~~6.9.1.11~~. Plant operation within these limits is addressed in individual Specifications.

A03

INSERT 3

of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

A01

1.1 DEFINITIONS

DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131

when inhaled as the combined activities of iodine isotopes

microcuries per gram

that

~~1.10~~ 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 Federal Guidance Report 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."~~

determination of DOSE EQUIVALENT I-131 shall be performed using Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) dose conversion factors from Table 2.1 of EPA Federal Guidance Report No. 11.

A01

DOSE EQUIVALENT XE-133

DOSE EQUIVALENT XE-133

microcuries per gram

~~1.11~~ DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (~~μCi/gram~~) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil."

ENGINEERED SAFETY FEATURES (ESF) RESPONSE TIME

ENGINEERED SAFETY FEATURE~~S~~ (ESF) RESPONSE TIME

A01

~~1.12~~ The ESF ~~ENGINEERED SAFETY FEATURES~~ REPONSE 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. 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~~.~~, or the components have been evaluated in accordance with an NRC approved methodology.

L02

~~FREQUENCY NOTATION~~

LA02

~~1.13 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.~~

~~GASEOUS RADWASTE TREATMENT SYSTEM~~

A04

~~1.14 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.~~

1.1 **DEFINITIONS**

LEAKAGE

~~IDENTIFED~~ LEAKAGE

~~1.15~~ ~~IDENTIFIED~~ LEAKAGE shall be:

a. Identified LEAKAGE

is

that from

s

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~~

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

collection systems or

;

A01

A05

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

(RCS) not ;

3. ~~c.~~ Reactor Coolant System leakage through a steam generator to the secondary system (Primary~~-~~to~~-~~secondary leakage)~~.~~ ;

b. Unidentified LEAKAGE see CTS 1.34 Markup

c. Pressure Boundary LEAKAGE see CTS 1.22 Markup

INSERVICE TESTING PROGRAM

INSERVICE TESTING PROGRAM

~~1.16~~ The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

A01

~~MEMBER(S) OF THE PUBLIC~~

~~1.17~~ ~~MEMBER OF THE PUBLIC means an individual in a controlled or unrestricted area. However, an individual is not a member of the public during any period in which the individual receives an occupational dose~~.

A04

OFFSITE DOSE CALCULATION MANUAL (ODCM)

1.18 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 also 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 6.9.1.7 and 6.9.1.8.

A04

See ITS 5.5.1

1.1 **DEFINITIONS**

OPERABLE – OPERABILITY

A07 A08 A01 A08

OPERABLE – OPERABILITY

~~1.19~~ A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s)~~,~~ and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling ~~or~~ and seal water, lubrication, ~~or~~ and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).

MODE

A01

~~OPERATIONAL~~ MODE

~~1.20~~ A~~n OPERATIONAL~~ MODE ~~(i.e., MODE)~~ shall correspond to any one inclusive combination of core reactivity condition, power level, ~~and~~ average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table ~~1.2~~ 1.1-1 with fuel in the reactor vessel.

PHYSICS TESTS

A06 A01

PHYSICS TESTS

~~1.21~~ PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. ~~and~~ These tests are:

a. ~~(1)~~ described in Chapter 14.0, Initial Test Program of the FSAR,

b. ~~(2)~~ authorized under the provisions of 10 CFR 50.59, or

c. ~~(3)~~ otherwise approved by the Nuclear Regulatory Commission.

LEAKAGE

A01 A05 A14

~~PRESSURE BOUNDARY~~ LEAKAGE

~~1.22~~ c. Pressure Boundary LEAKAGE ~~shall be leakage~~ LEAKAGE (except primary~~-~~to~~-~~secondary LEAKAGE) through a ~~non-isolable~~ fault in ~~a Reactor Coolant System~~ an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.

A04

~~PROCESS CONTROL PROGRAM (PCP)~~

~~1.23 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, and determinations to be made to ensure that processing and packing 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.~~

~~PURGE – PURGING~~

~~1.24 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~~.

1.1 → **DEFINITIONS**

RATED THERMAL POWER

RATED THERMAL POWER (RTP)

RTP

~~1.25~~ ~~RATED THERMAL POWER~~ shall be a total reactor core heat transfer rate to the reactor coolant of 3020 MWt.

A01

REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME

REACTOR ~~TRIP~~ PROTECTION SYSTEM (RPS) RESPONSE TIME

~~1.26~~ The ~~REACTOR TRIP SYSTEM~~ RPS RESPONSE TIME shall be ~~the~~ that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until electrical power to the CEAs drive mechanism is interrupted. 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~~.~~, or the components have been evaluated in accordance with an NRC approved methodology.

L02

~~**REPORTABLE EVENT**~~

~~1.27 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.~~

A04

SHIELD BUILDING INTEGRITY

1.28 SHIELD BUILDING INTEGRITY shall exist when:

a. Each door is closed except when the access opening is being used for normal transit entry and exit;

b. The shield building ventilation system is in compliance with Specification 3.6.6.1, and

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

A04

See ITS 3.6.7

See ITS 3.6.9

SHUTDOWN MARGIN

SHUTDOWN MARGIN (SDM)

SDM

~~1.29~~ ~~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 control element assemblies~~ CEAs (shutdown and regulating) are fully inserted except for the single ~~assembly~~ CEA of highest reactivity worth, which is assumed to be fully withdrawn.

A01

See CTS 4.1.1.1.1.a Markup A09

See CTS 4.1.1.1.1.e *Note Markup A13

~~**SITE BOUNDARY**~~

~~1.30 SITE BOUNDARY means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.~~

~~**SOURCE CHECK**~~

~~1.31 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.~~

A04

1.1 DEFINITIONS

~~STAGGERED TEST BASIS~~

~~1.32 A STAGGERED TEST BASIS shall consist of:~~

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

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

A04

THERMAL POWER

THERMAL POWER

~~1.33~~ THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

A01

LEAKAGE

~~UNIDENTIFIED~~ **LEAKAGE**

(except RCP seal water injection or leakoff) that

b.

~~1.34~~ UNIDENTIFIED LEAKAGE ~~shall be~~ all leakage ~~which~~ is not IDENTIFIED LEAKAGE ~~or CONTROLLED LEAKAGE.~~

; and

A01 A05 A04

~~UNRESTRICTED AREA~~

~~1.35 UNRESTRICTED AREA means an area, access to which is neither limited nor controlled by the licensee.~~

~~UNRODDED INTEGRATED RADIAL PEAKING FACTOR - F_r~~

~~1.36 The UNRODDED INTEGRATED RADIAL PEAKING FACTOR is the ratio of the peak pin power to the average pin power in an unrodded core, excluding tilt.~~

A04

~~TABLE 1.1~~

~~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~~
~~4/M*~~	~~At least 4 per month at intervals of no greater than 9 days and a minimum of 48 per year~~
~~M~~	~~At least once per 31 days~~
~~Q~~	~~At least once per 92 days~~
~~SA~~	~~At least once per 184 days~~
~~R~~	~~At least once per 18 months~~
~~S/U~~	~~Prior to each reactor startup~~
~~P**~~	~~Completed prior to each release~~
~~SFCP~~	~~In accordance with the Surveillance Frequency Control Program~~
~~N.A.~~	~~Not applicable~~

LA02

~~* For Radioactive Effluent Sampling~~

~~** For Radioactive Batch Releases Only~~

TABLE ~~1.2~~ 1.1-1 (page 1 of 1)

~~OPERATIONAL~~ MODES

MODE TITLE	REACTIVITY CONDITION~~,~~ (Keff)	% RATED THERMAL POWER~~*~~ (a)	REACTOR AVERAGE COOLANT TEMPERATURE (°F)
1. Power Operation	≥ 0.99	> 5~~%~~	NA ~~≥ 325°F~~
2. Startup	≥ 0.99	≤ 5~~%~~	NA ~~≥ 325°F~~
3. Hot Standby	< 0.99	NA ~~0~~	≥ 325~~°F~~
4. Hot Shutdown (b)	< 0.99	NA ~~0~~	325~~°F~~ > Tavg > 200~~°F~~
5. Cold Shutdown (b)	< 0.99	NA ~~0~~	≤ 200~~°F~~
6. Refueling~~**~~ (c)	NA ~~≤ 0.95~~	NA ~~0~~	NA ~~≤ 140°F~~

A01 A11 LA03

(a) ~~*~~ Excluding decay heat.

(c) ~~**~~ ~~Fuel in the reactor vessel with the~~ One or more reactor vessel head closure bolts less than fully tensioned ~~or with the head removed~~.

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

A01 A06

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

A10

ITS

3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

See ITS 3.1.1

SHUTDOWN MARGIN - T_{avg} > 200 °F

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be within the limits specified in the COLR.

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

ACTION:

With the SHUTDOWN MARGIN not within limits immediately initiate and continue boration at ≥ 40 gpm of greater than or equal to 1900 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 within the COLR limits:

SHUTDOWN MARGIN

a. Within one hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. ~~If the inoperable~~ With any CEA s ~~is~~ not capable of being fully inserted, ~~and is immovable as a result of excessive friction or mechanical interference or is known to be untrippable,~~ the ~~above required SHUTDOWN MARGIN shall be increased by an amount at least equal to the withdrawn~~ reactivity worth of ~~the immovable or untrippable~~ these CEA~~(s)~~ must be accounted for in the determination of SDM.

A01

b. When in MODES 1 or 2#, in accordance with the Surveillance Frequency Control Program by verifying that CEA group withdrawal is within the Power Dependent Insertion Limits of Specification 3.1.3.6.

c. When in MODE 2## at least once during CEA withdrawal and in accordance with the Surveillance Frequency Control Program until the reactor is critical.

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the CEA groups at the Power Dependent Insertion Limits of Specification 3.1.3.6.

---

* See Special Test Exception 3.10.1.

\# With K_{eff} ≥ 1.0.

\## With K_{eff} < 1.0.

ITS

REACTIVITY CONTROL SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

e. When in MODES 3 or 4, in accordance with the Surveillance Frequency Control Program by consideration of the following factors:

1. Reactor coolant system boron concentration,
2. CEA position,*
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation,
5. Xenon concentration, and
6. Samarium concentration.

See ITS 3.1.1

4.1.1.1.2 The overall core reactivity balance shall be compared to predicted values to demonstrate agreement within ± 1000 pcm in accordance with the Surveillance Frequency Control Program. 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

SHUTDOWN MARGIN

~~*~~ ~~For Modes 3 and 4, during calculation of shutdown margin~~ However, with all CEA~~'~~s verified fully inserted~~, the single CEA with the highest reactivity worth need not be assumed to be stuck in the fully withdrawn position~~ by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation.

L03

A13

ITS

REACTIVITY CONTROL SYSTEMS

SHUTDOWN MARGIN - $T_{avg} \leq 200\ °F$

See ITS 3.1.1

LIMITING CONDITION FOR OPERATION

3.1.1.2 The SHUTDOWN MARGIN shall be:

Within the limits specified in the COLR, and in addition with the Reactor Coolant System drained below the hot leg centerline, one charging pump shall be rendered inoperable.*

APPLICABILITY: MODE 5.

ACTION:

If the SHUTDOWN MARGIN requirements cannot be met, immediately initiate and continue boration at ≥ 40 gpm of greater than or equal to 1900 ppm boron or equivalent until the required SHUTDOWN MARGIN is restored.

SURVEILLANCE REQUIREMENTS

SHUTDOWN MARGIN

4.1.1.2 The SHUTDOWN MARGIN requirements of Specification 3.1.1.2 shall be determined:

a. Within one hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. ~~If the inoperable~~ With any CEA s not capable of being fully inserted ~~is immovable or untrippable~~, the ~~above required SHUTDOWN MARGIN shall be increased by an amount at least equal to the withdrawn~~ reactivity worth of ~~the immovable or untrippable~~ these CEA~~(s)~~ must be accounted for in the determination of SDM. A01

b. In accordance with the Surveillance Frequency Control Program by consideration of the following factors:

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

c. At least once per 24 hours, when the Reactor Coolant System is drained below the hot leg centerline, by consideration of the factors in 4.1.1.2.b and by verifying at least one charging pump is rendered inoperable.*

* Breaker racked-out.

1

1.~~0~~ DEFINITIONS

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications.

and Bases

A12

Term | Definition

ACTIONS

ACTION S

~~1.1~~ ACTION shall be that part of a specification ~~which~~ that prescribes ~~remedial measures required~~ Required Actions to be taken under designated conditions within specified Completion Times.

A01

AXIAL SHAPE INDEX (ASI)

AXIAL SHAPE INDEX (ASI)

~~1.2 The AXIAL SHAPE INDEX (Y_E) is~~ ASI shall be the power ~~level detected~~ generated in by the lower ~~excore nuclear instrument detectors (L)~~ generated in half of the core less the power ~~level detected by~~ the upper half of the core, ~~excore nuclear instrument detectors (U)~~ divided by the sum of the~~se~~ power generated in the lower and upper halves of the core. ~~levels. The AXIAL SHAPE INDEX (Y_I) used for the trip and pretrip signals in the reactor protection system is the above value (Y_E) modified by an appropriate multiplier (A) and a constant (B) to determine the true core axial power distribution for that channel.~~

LA01

$$\cancel{Y_E = \frac{L-U}{L+U}} \qquad \cancel{Y_I = AY_E + B}$$

ASI = (LOWER – UPPER) / LOWER + UPPER)

AZIMUTHAL POWER TILT (T_q)

AZIMUTHAL POWER TILT ~~–~~ T_q

~~1.3~~ AZIMUTHAL POWER TILT shall be the maximum (P_{quad}) of the difference between the power generated in any core quadrant (upper or lower) and the average power of all quadrants (P_{avg}) in that half (upper or lower) of the core, divided by the average power of all quadrants in that half (upper or lower) of the core.

$$\cancel{\text{AZIMUTHAL POWER TILT} = \text{MAX}\left[\frac{\text{Power in any core quadrant (upper or lower)}}{\text{Average power of all quadrants (upper or lower)}}\right] - 1}$$

T_q = MAX | (P_{quad} – P_{avg}) / P_{avg} |

A01

CHANNEL CALIBRATION

CHANNEL CALIBRATION

~~1.4~~ A CHANNEL CALIBRATION that 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 all devices in the ~~entire~~ channel required for channel OPERABILITY ~~including the sensor and alarm and/or trip functions,~~ and ~~shall include~~ the CHANNEL FUNCTIONAL TEST. INSERT 1 The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping or total channel steps INSERT 2 ~~such that the entire channel is calibrated.~~

A02

CHANNEL CHECK

CHANNEL CHECK

~~1.5~~ A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation ~~by observation~~. This determination shall include, where possible, comparison of the channel indication and~~/or~~ status ~~with~~ to other indications ~~and/~~or status derived from independent instrument channels measuring the same parameter.

A02

A02

INSERT 1

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.

A02

INSERT 2

, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

1.1 **DEFINITIONS**

CHANNEL FUNCTIONAL TEST

CHANNEL FUNCTIONAL TEST

or actual

L01

~~1.6~~ A CHANNEL FUNCTIONAL TEST shall be 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.~~

A01

Insert 3

A03

CONTAINMENT VESSEL INTEGRITY

A04

1.7 CONTAINMENT VESSEL INTEGRITY shall exist when:

See ITS 3.6.1

a. All containment vessel penetrations required to be closed during accident conditions are either:

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

See ITS 3.6.3

2. Closed by manual valves, blind flanges, or deactivated automatic valves secured in their closed positions, except for valves that are open on an intermittent basis under administrative control.

b. All containment vessel equipment hatches are closed and sealed,

c. Each containment vessel air lock is in compliance with the requirements of Specification 3.6.1.3,

See ITS 3.6.2

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

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

~~CONTROLLED LEAKAGE~~

~~1.8 CONTROLLED LEAKAGE shall be the seal water flow supplied from the reactor coolant pump seals.~~

~~CORE ALTERATION~~

~~1.9 CORE ALTERATION shall be the movement or manipulation of any fuel, sources, reactivity control components, or other components affecting reactivity within the reactor vessel with the vessel head removed and fuel in the vessel. Exceptions to the above include evolutions performed with the upper guide structure (UGS) in place such as control element assembly (CEA) latching/unlatching or verification of latching/unlatching which do not constitute a CORE ALTERATION. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.~~

A04

CORE OPERATING LIMITS REPORT (COLR)

CORE OPERATING LIMITS REPORT (COLR)

~~1.9a~~ THE COLR is the unit-specific document that provides cycle specific parameter limits for the current ~~operating~~ reload cycle. These cycle-specific parameter limits shall be determined for each reload cycle in accordance with Specification ~~6.9.1.11~~ 5.6.3. Plant operation within these limits is addressed in individual Specifications.

A01

A03 **INSERT 3**

of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.

1.1 ~~DEFINITIONS~~

DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131

~~1.10~~ DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) ~~which~~ that alone would produce the same ~~thyroid~~ dose when inhaled as the combined activities of iodine isotopes ~~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 Federal Guidance Report 11, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."~~ determination of DOSE EQUIVALENT I-131 shall be performed using Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) dose conversion factors from Table 2.1 of EPA Federal Guidance Report No. 11. A01

DOSE EQUIVALENT XE-133

DOSE EQUIVALENT XE-133

~~1.11~~ DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (~~µCi/gram~~ microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138 actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, “External Exposure to Radionuclides in Air, Water, and Soil.”

ENGINEERED SAFETY FEATURES (ESF) RESPONSE TIME

ENGINEERED SAFETY FEATURE~~S~~ (ESF) RESPONSE TIME

~~1.12~~ The ~~ENGINEERED SAFETY FEATURES~~ 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. 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~~.~~, or the components have been evaluated in accordance with an NRC approved methodology. A01 L02

~~FREQUENCY NOTATION~~

~~1.13 The FREQUENCY NOTATION specified for the performance of Surveillance Requirements shall correspond to the intervals defined in Table 1.1.~~ LA02

~~GASEOUS RADWASTE TREATMENT SYSTEM~~

~~1.14 A GASEOUS RADWASTE TREATMENT SYSTEM is any system designed and installed to reduce radioactive gaseous effluents by collecting primary coolant system offgases from the primary system and providing for delay or holdup for the purpose of reducing the total radioactivity prior to release to the environment.~~ A04

LEAKAGE

~~IDENTIFIED~~ LEAKAGE

~~1.15~~ a. Identified LEAKAGE ~~IDENTIFIED~~ LEAKAGE shall be:

1\. ~~a.~~ ~~Leakage (except CONTROLLED~~ LEAKAGE~~) into closed systems~~, such as that from pump seals or valve packing ~~leaks~~ that ~~are~~ is captured~~,~~ and conducted to collection systems or a sump or collecting tank~~, or~~;

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

2\. ~~b.~~ Leakage into the containment atmosphere from sources that are both specifically located and known ~~either not~~ not to interfere with the operation of leakage detection systems~~, or not to be PRESSURE BOUNDARY LEAKAGE,~~; or

3\. ~~c.~~ Reactor Coolant System (RCS) leakage through a steam generator to the secondary system (primary~~-~~to~~-~~secondary leakage)~~.~~;

b. Unidentified LEAKAGE see CTS 1.34 Markup

c. Pressure Boundary LEAKAGE see CTS 1.22 Markup

A01 A05

1.1 **DEFINITIONS**

INSERVICE TESTING PROGRAM

INSERVICE TESTING PROGRAM A01

~~1.16~~ The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

~~**MEMBER(S) OF THE PUBLIC**~~ A04

~~1.17 MEMBER OF THE PUBLIC means an individual in a controlled or unrestricted area. However, an individual is not a member of the public during any period in which the individual receives an occupational dose.~~

OFFSITE DOSE CALCULATION MANUAL (ODCM) A04

1.18 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 also 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 6.9.1.7 and 6.9.1.8.

See ITS 5.5.1

OPERABLE – OPERABILITY

OPERABLE – OPERABILITY A07 A08 A01

normal or emergency

,

safety

~~1.19~~ A system, subsystem, train, component or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s)~~,~~ and when all necessary attendant instrumentation, controls, electrical power, 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

specified safety

and

A08

MODE

~~**OPERATIONAL MODE –**~~ **MODE** A01

~~1.20~~ A~~n OPERATIONAL~~ MODE ~~(i.e., MODE)~~ shall correspond to any one inclusive combination of core reactivity condition, power level ~~and~~ average reactor coolant temperature specified in Table ~~1.2~~.

,

,

and reactor vessel head closure bolt tensioning

1.1-1 with fuel in the reactor vessel

A06

PHYSICS TESTS

PHYSICS TESTS A01

. These tests are:

~~1.21~~ 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 14.0 of the FSAR, ~~(2)~~ authorized under the provisions of 10 CFR 50.59, or ~~(3)~~ otherwise approved by the Commission.

a.

c.

, Initial Test Program

b.

Nuclear Regulatory

1.1 DEFINITIONS

LEAKAGE

~~PRESSURE BOUNDARY~~ LEAKAGE

A01 A05

c. an RCS LEAKAGE

~~1.22~~ PRESSURE BOUNDARY LEAKAGE ~~shall be leakage~~ (except primary-to-secondary leakage) through a ~~non-isolable~~ fault in ~~a Reactor Coolant System~~ component body, pipe wall, or vessel wall.

LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.

A14

~~PROCESS CONTROL PROGRAM (PCP)~~

~~1.23 The PROCESS CONTROL PROGRAM (PCP) shall contain the current formulas, sampling, analyses, test, 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.~~

A04

~~PURGE – PURGING~~

~~1.24 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.~~

RATED THERMAL POWER

RATED THERMAL POWER (RTP)

~~1.25~~ ~~RATED THERMAL POWER~~ RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3020 MWt.

REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME

REACTOR ~~TRIP~~ PROTECTION SYSTEM (RPS) RESPONSE TIME

A01

~~1.26~~ The ~~REACTOR TRIP SYSTEM~~ RPS RESPONSE TIME shall be ~~the~~ that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until electrical power to the CEAs drive mechanism is interrupted. 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~~.~~, or the components have been evaluated in accordance with an NRC approved methodology.

L02

~~REPORTABLE EVENT~~

~~1.27 A REPORTABLE EVENT shall be any of those conditions specified in Section 50.73 to 10 CFR Part 50.~~

A04

SHIELD BUILDING INTEGRITY

A04

1.28 SHIELD BUILDING INTEGRITY shall exist when:

a. Each door is closed except when the access opening is being used for normal transit entry and exit;

See ITS 3.6.7

b. The shield building ventilation system is in compliance with Specification 3.6.6.1, and

See ITS 3.6.9

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

1.1 ~~DEFINITIONS~~

SHUTDOWN MARGIN

SHUTDOWN MARGIN SDM

A01

~~1.29~~ ~~SHUTDOWN MARGIN~~ SDM 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 control element assemblies~~ (shutdown and regulating) CEAs are fully inserted except for the single ~~assembly~~ CEA of highest reactivity worth which is assumed to be fully withdrawn. Insert 4

See CTS 4.1.1.1.1.a Markup A09

L03

~~SITE BOUNDARY~~

~~1.30 SITE BOUNDARY means that line beyond which the land or property is not owned, leased, or otherwise controlled by the licensee.~~

~~SOURCE CHECK~~

~~1.31 A SOURCE CHECK shall be the qualitative assessment of channel response when the channel sensor is exposed to a radioactive source.~~

~~STAGGERED TEST BASIS~~

~~1.32 A STAGGERED TEST BASIS shall consist of:~~

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

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

A04

THERMAL POWER

THERMAL POWER

~~1.33~~ THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

A01

LEAKAGE

~~UNIDENTIFIED~~ LEAKAGE

~~1.34~~ b. ~~UNIDENTIFIED LEAKAGE~~ ~~shall be~~ all ~~leakage~~ (except RCP seal water injection or leakoff) that ~~which~~ is not ~~IDENTIFIED~~ LEAKAGE; and ~~or CONTROLLED LEAKAGE.~~

A01 A05 A04

~~UNRESTRICTED AREA~~

~~1.35 Unrestricted area means an area, access to which is neither limited nor controlled by the licensee.~~

A04

L03 **INSERT 4**

However, with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation.

1.1 **DEFINITIONS**

~~UNRODDED INTEGRATED RADIAL PEAKING FACTOR - F_r~~

~~1.36 The UNRODDED INTEGRATED RADIAL PEAKING FACTOR is the ratio of the peak pin power to the average pin power in an unrodded core, excluding tilt.~~ A04

~~VENTILATION EXHAUST TREATMENT SYSTEM~~

~~1.37 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 adsorbers 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 Features (ESF) atmospheric cleanup systems are not considered to be VENTILATION EXHAUST TREATMENT SYSTEM components.~~ A04

~~TABLE 1.1~~

~~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~~
~~4/M*~~	~~At least 4 per month at intervals of no greater than 9 days and a minimum of 48 per year~~
~~M~~	~~At least once per 31 days~~
~~Q~~	~~At least once per 92 days~~
~~SA~~	~~At least once per 184 days~~
~~R~~	~~At least once per 18 months~~
~~S/U~~	~~Prior to each reactor startup~~
~~P**~~	~~Completed prior to each release~~
~~SFCP~~	~~In accordance with the Surveillance Frequency Control Program~~
~~N.A.~~	~~Not applicable~~

~~* For Radioactive Effluent Sampling.~~

~~** For Radioactive Batch Releases only.~~

LA02

TABLE ~~1.2~~ 1.1-1 (page 1 of 1)

~~OPERATIONAL~~ MODES

~~OPERATIONAL~~ MODE TITLE	REACTIVITY CONDITION~~,~~ (K_{eff})	% OF RATED THERMAL POWER~~*~~ (a)	REACTOR AVERAGE COOLANT TEMPERATURE (°F)
1. POWER OPERATION	$\geq$ 0.99	> 5~~%~~	NA ~~$\geq$ 325°F~~
2. STARTUP	$\geq$ 0.99	$\leq$ 5~~%~~	NA ~~$\geq$ 325°F~~
3. HOT STANDBY	< 0.99	NA ~~0~~	$\geq$ 325~~°F~~
4. HOT SHUTDOWN (b)	< 0.99	NA ~~0~~	325~~°F~~ > Tavg > 200~~°F~~
5. COLD SHUTDOWN (b)	< 0.99	NA ~~0~~	$\leq$ 200~~°F~~
6. REFUELING~~**~~ (c)	NA ~~$\leq$ 0.95~~	NA ~~0~~	NA $\leq$ 140~~°F~~

A01
A11
LA03

(a) ~~*~~ Excluding decay heat.

(c) ~~**~~ ~~Fuel in the reactor vessel with the~~ One or more reactor vessel head closure bolts less than fully tensioned ~~or with the head removed~~.

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

A01
A06

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

A10

ITS

3/4.1 REACTIVITY CONTROL SYSTEMS

3/4.1.1 BORATION CONTROL

See ITS 3.1.1

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

LIMITING CONDITION FOR OPERATION

3.1.1.1 The SHUTDOWN MARGIN shall be within the limits specified in the COLR.

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

ACTION:

With the SHUTDOWN MARGIN outside the COLR limits, immediately initiate and continue boration at greater than or equal to 40 gpm of a solution containing greater than or equal to 1900 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 within the COLR limits:

SHUTDOWN MARGIN

With any s

capable of being

a. Within one hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. ~~If the inoperable~~ CEA ~~is~~ not fully inserted, ~~and is immovable as a result of excessive friction or mechanical interference or is known to be untrippable,~~ the ~~above required SHUTDOWN MARGIN shall be verified acceptable with an increased allowance for the withdrawn~~ worth of ~~the immovable or untrippable~~ CEA~~(~~s~~)~~.

A01

reactivity these must be accounted for in the determination of SDM

b. When in MODE 1 or MODE 2 with Keff greater than or equal to 1.0, in accordance with the Surveillance Frequency Control Program by verifying that CEA group withdrawal is within the Power Dependent Insertion Limits of Specification 3.1.3.6.

c. When in MODE 2 with Keff less than 1.0, within 4 hours prior to achieving reactor criticality by verifying that the predicted critical CEA position is within the limits of Specification 3.1.3.6.

* See Special Test Exception 3.10.1.

ITS

REACTIVITY CONTROL SYSTEMS

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

See ITS 3.1.1

LIMITING CONDITION FOR OPERATION

3.1.1.2 The SHUTDOWN MARGIN shall be within the limits specified in the COLR.

APPLICABILITY: MODE 5.

ACTION:

With the SHUTDOWN MARGIN outside the COLR limits, immediately initiate and continue boration at greater than or equal to 40 gpm of a solution containing greater than or equal to 1900 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 within the COLR limits:

SHUTDOWN MARGIN

A01

With any

s

not capable of being fully inserted

a. Within 1 hour after detection of an inoperable CEA(s) and at least once per 12 hours thereafter while the CEA(s) is inoperable. ~~If the inoperable~~ CEA ~~is immovable or untrippable~~, the ~~above required SHUTDOWN MARGIN shall be increased by an amount at least equal to the withdrawn~~ worth of ~~the immovable or untrippable~~ CEA~~(~~s~~)~~.

these

must be accounted for in the determination of SDM

reactivity

b. In accordance with the Surveillance Frequency Control Program by consideration of the following factors:

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

c. At least once per 24 hours, when the Reactor Coolant System is drained below the hot leg centerline, by consideration of the factors in 4.1.1.2b and by verifying at least two charging pumps are rendered inoperable by racking out their motor circuit breakers.

ADMINISTRATIVE CHANGES

A01 In the conversion of the St. Lucie Plant (PSL) Unit 1 and Unit 2, Current Technical Specifications (CTS) to the plant specific Improved Technical Specifications (ITS), certain changes (wording preferences, editorial changes, reformatting, revised numbering, etc.) are made to obtain consistency with NUREG-1432, Rev. 5.0, "Standard Technical Specifications-Combustion Engineering Plants" (ISTS).

These changes are designated as administrative changes and are acceptable because they do not result in technical changes to the CTS.

A02 CTS 1.4 defines a CHANNEL CALIBRATION as "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." ITS defines a CHANNEL CALIBRATION as "the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an in place qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step." This results in a number of changes to the CTS.

- The CTS definition states, "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 ITS states, "The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST."

  This change is acceptable because the statements are equivalent in that both require that all needed portions of the channel be tested. The ITS definition reflects the CTS understanding that the CHANNEL CALIBRATION includes only those portions of the channel needed to perform the safety function including the required devices associated with the CHANNEL FUNCTIONAL TEST.

- The ITS adds the statement, "Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an in place qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel." The purpose of a CHANNEL CALIBRATION is to adjust the channel output so that the channel responds within the necessary range and accuracy to known values of the parameters that the channel monitors.

This change is acceptable because resistance temperature detectors and thermocouples are designed such that they have a fixed input/output response, which cannot be adjusted or changed once installed. Calibration of a channel containing an RTD or thermocouple is performed by applying the RTD or thermocouple fixed input/output relationship to the remainder of the channel, and making the necessary adjustments to the adjustable devices in the remainder of the channel to obtain the necessary output range and accuracy. Therefore, unlike other sensors, an RTD or thermocouple is not actually calibrated. The ITS CHANNEL CALIBRATION allowance for channels containing RTDs and thermocouples is consistent with the CTS calibration practices of these channels. This information is included in the ITS to avoid confusion but does not change the current CHANNEL CALIBRATION practices for these types of channels.

- The ITS adds the statement, "and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step."

  This change is acceptable because it results in no technical changes to the Technical Specifications. The CTS have implemented the Surveillance Frequency Control Program.

These changes are designated as administrative because they do not result in a technical change to the Technical Specifications.

A03 CTS Section 1.0 defines CHANNEL FUNCTIONAL TEST as "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." ITS Section 1.1 defines it as "the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step." This changes the CHANNEL FUNCTIONAL TEST by stating that the CHANNEL FUNCTIONAL TEST may include “the injection of a simulated or actual signal”, applies to “all devices in the channel required for OPERABILITY”, may “be performed by means of any series of sequential, overlapping, or total channel steps”, and “each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step.” The addition of use of an actual signal is discussed in DOC L01.

- The CTS definition states that the CHANNEL FUNCTIONAL TEST shall verify that the channel is OPERABLE "including alarm and/or trip functions." Similarly, the ITS requirement states that the CHANNEL FUNCTIONAL TEST shall verify OPERABILITY of "all devices in the channel required for channel OPERABILITY."

This change is acceptable because the statements are equivalent in that both require verification of channel OPERABILITY. The CTS and the ITS use different examples of what is included in a channel, but this does not change the intent of the requirement. The ITS use of the phrase "all devices in the channel required for channel OPERABILITY" reflects the CTS understanding that the test includes only those portions of the channel needed to perform the specified safety function(s).

- The ITS states "The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps."

  This change is acceptable because it states current Industry practice and is consistent with the current implementation of the CHANNEL FUNCTIONAL TEST. Therefore, this change does not result in a technical change to the Technical Specifications.

- The ITS adds the statement, "and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step."

  This change is acceptable because it results in no technical changes to the Technical Specifications. The CTS have implemented the Surveillance Frequency Control Program.

These changes are designated as administrative because they do not result in a technical change to the Technical Specifications.

A04 CTS Section 1.0 includes the following definitions:

- CONTAINMENT VESSEL INTEGRITY
- CONTROLLED LEAKAGE
- CORE ALTERATION
- FREQUENCY NOTATION
- GASEOUS RADWASTE TREATMENT SYSTEM
- MEMBER(S) OF THE PUBLIC
- OFFSITE DOSE CALCULATION MANUAL (ODCM)
- PROCESS CONTROL PROGRAM (PCP)
- PURGE – PURGING
- REPORTABLE EVENT
- SHIELD BULIDING INTEGRITY
- SITE BOUNDARY
- SOURCE CHECK
- STAGGERED TEST BASIS
- UNRESTRICTED AREA
- UNRODDED INTEGRATED RADIAL PEAKING FACTOR - F_r
- VENTILATION EXHAUST TREATMENT SYSTEM (PSL Unit 2 Only)

The ITS does not use this terminology and ITS Section 1.1 does not contain these definitions. The FREQUENCY NOTATION definition deletion is discussed in DOC LA02. The VENTILATION EXHAUST TREATMENT SYSTEM definition deletion is only applicable to PSL Unit 2 because this definition is not contained in the PSL Unit 1 TS.

These changes are acceptable because the terms are not used as defined terms in the ITS. Discussions of any technical changes related to the deletion of these terms are included in the DOCs for the CTS sections in which the terms are used. These changes are designated as administrative because they eliminate defined terms that are no longer used.

A05 CTS Section 1.0 provides definitions for IDENTIFIED LEAKAGE, PRESSURE BOUNDARY LEAKAGE, and UNIDENTIFIED LEAKAGE. ITS Section 1.1 includes these requirements in one definition called LEAKAGE (which includes three categories: identified LEAKAGE, unidentified LEAKAGE, and pressure boundary LEAKAGE). This changes the CTS by incorporating the definitions into the ITS LEAKAGE definition with no technical changes.

This change is acceptable because it results in no technical changes to the Technical Specifications. This change is designated an administrative change in that it rearranges existing definitions, with no change in intent.

A06 CTS Section 1.20 and Table 1.2, OPERATIONAL MODES" provide a description of the MODES. CTS Table 1.2 contains Note ** that states, "Fuel in the reactor vessel with the vessel head closure bolts less than fully tensioned or with the head removed." ITS Section 1.1 and Table 1.1-1, "MODES," changes the CTS MODE definitions in the following ways:

- The CTS Table 1.2 Note ** condition "fuel in the vessel" is moved to the ITS MODE definition.

  This change is acceptable because it moves information within the Technical Specifications with no change in intent. Each MODE in the Table includes fuel in the vessel.

- CTS Table 1.1, Note ** in part states, "…with the vessel head closure bolts less than fully tensioned or with the head removed." ITS splits this portion of the Note into two Notes, Notes (b), and (c). ITS Note (b) states, "All reactor vessel head closure bolts fully tensioned," while Note (c) states, "One or more reactor vessel head closure bolts less than fully tensioned." This change simplifies what CTS is stating by clearly defining when the reactor is in a refueling condition instead of a shutdown condition.

  This change is acceptable because the revised phrase is consistent with the current interpretation and usage. MODE 6 is currently declared when the first vessel head closure bolt is detensioned. This change also eliminates a redundant phrase. The reactor vessel head cannot be removed unless the reactor vessel head closure bolts are unbolted and they cannot be unbolted unless they are detensioned. Since “vessel head closure bolts less then fully tensioned” is already specified in the CTS Note, including “or with the reactor head removed” is unnecessary.

- ITS Table 1.1-1 contains a new Note b, which applies to MODES 4 and 5. Note b states "All reactor vessel head closure bolts fully tensioned." This Note is the opposite of CTS Note ** and ITS Table 1.1-1 Note (c).

  This change is acceptable because it avoids a conflict between the definition of MODE 6 and the other MODES should RCS temperature increase above the CTS MODE 6 temperature limit while a reactor vessel head closure bolt is less than fully tensioned. This ITS Note is included only for clarity. It is consistent with the current use of MODES 4 and 5 and does not result in any technical change to the application of the MODES.

- For consistency with the Notes in ITS Table 1.1-1, the ITS definition of MODE adds, "reactor vessel head closure bolt tensioning" to the list of characteristics that define a MODE. Currently, the CTS definition does not include this clarification.

  This change is acceptable because the definition of MODE should be consistent with the MODE table in order to avoid confusion. This change is made only for consistency and results in no technical changes to the Technical Specifications.

These changes are designated as administrative because they clarify the application of the MODES and no technical changes to the MODE definitions are made. The clarifications are consistent with the current use and application of the MODES.

A07 The CTS Section 1.0 definition of OPERABLE - OPERABILITY requires that “all necessary attendant instrumentation, controls, electrical power, 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).” The ITS Section 1.1 definition of OPERABLE - OPERABILITY will replace the phrase “electrical power" with "normal or emergency electrical power." This changes the CTS definition of OPERABLE - OPERABILITY by allowing a device to be considered OPERABLE with either normal or emergency power available.

The OPERABILITY requirements for normal and emergency power sources are addressed in CTS Section 3/4.8. These requirements allow only the normal or the emergency electrical power source to be OPERABLE, provided its redundant system(s), subsystem(s), train(s), component(s), and device(s) (redundant to the systems, subsystems, trains, components, and devices with an inoperable power source) are OPERABLE. Therefore, the ITS definition uses the words "normal or emergency" consistent with CTS Section 3/4.8. This change is designated administrative since the ITS definition is effectively the same as the CTS definition.

A08 The CTS Section 1.0 definition of OPERABLE - OPERABILITY requires that “A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified function(s) and when all necessary attendant instrumentation, controls, electrical power, 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).” The ITS Section 1.1 definition of OPERABLE - OPERABILITY will replace the phrase “specified function(s)” with "specified safety functions" and will replace the phrase “function(s)” with "specified safety functions.”

The CTS Section 1.0 definition of OPERABLE - OPERABILITY requires a system, subsystem, train, component, or device to be capable of performing its "specified function(s)" and all necessary support systems to also be capable of performing their "function(s)." The ITS Section 1.1 definition of OPERABLE - OPERABILITY requires the system, subsystem, train, component, or device to be capable of performing the "specified safety function(s)," and requires all necessary support systems that are required for the system, subsystem, train, component, or device to perform its "specified safety function(s)" to also be capable of performing their related support functions. This changes the CTS by altering the requirement to be able to perform "functions" to a requirement to be able to perform "safety functions."

The purpose of the CTS and ITS definitions of OPERABLE - OPERABILITY are to ensure that the safety analysis assumptions regarding equipment and variables are valid. This change is acceptable because the intent of both the CTS and ITS definitions is to address the safety function(s) assumed in the accident analysis and not encompass other non-safety functions a system may also perform. These non-safety functions are not assumed in the safety analysis and are not needed in order to protect the public health and safety. This change is consistent with the current interpretation and use of the terms OPERABLE and OPERABILITY. This change is designated as administrative as it does not change the current use and application of the Technical Specifications.

A09 CTS Section 1.0 provides a definition of SHUTDOWN MARGIN (SDM). The ITS Section 1.1 definition of SDM contains the following difference from the CTS definition.

- The CTS definition of SDM does not include a statement requiring an increased allowance for the withdrawn worth of an immovable or untrippable CEA(s). This requirement is contained in CTS 4.1.1.1.1.a and CTS 4.1.1.2.a. The ITS definition of SDM includes this increased allowance by stating, “ With any CEAs not capable of being fully inserted, the reactivity worth of these CEAs must be accounted for in the determination of SDM.” This changes the CTS definition of SDM to include the requirement in CTS 4.1.1.1.1.a and CTS 4.1.1.2.a for an increased allowance for the withdrawn worth of the immovable or untrippable CEA(s).

This change is acceptable because it is consistent with the existing SDM requirements associated with a CEA not capable of being fully inserted as specified in CTS 3.1.1.1 and 3.1.1.2.

This change is designated as administrative because it does not represent a technical change to the Technical Specifications

A10 ITS Sections 1.2, 1.3, and 1.4 contain information that is not in the CTS. This change to the CTS adds explanatory information on ITS usage that is not applicable to the CTS. The added sections are:

- <u>Section 1.2 - Logical Connectors</u>

  Section 1.2 provides specific examples of the logical connectors "<u>AND</u>" and "<u>OR</u>" and the numbering sequence associated with their use.

- <u>Section 1.3 - Completion Times</u>

  Section 1.3 provides guidance on the proper use and interpretation of Completion Times. The section also provides specific examples that aid in the use and understanding of Completion Times

- <u>Section 1.4 – Frequency</u>

  Section 1.4 provides guidance on the proper use and interpretation of Surveillance Frequencies. The section also provides specific examples that aid in the use and understanding of Surveillance Frequency.

This change is acceptable because it aids in the understanding and use of the format and presentation style of the ITS. The addition of these sections does not add or delete technical requirements, and will be discussed specifically in those Technical Specifications where application of the added sections results in a change. This change is designated as administrative because it does not result in a technical change to the Technical Specifications.

A11 CTS Table 1.2, OPERATIONAL MODES, is revised. The corresponding table in ITS Section 1.1 is Table 1.1-1, MODES. The changes to the CTS are:

- CTS Table 1.2 minimum average reactor coolant temperature for MODES 1 and 2 is changed from ≥ 325°F to "NA" (not applicable) in ITS Table 1.1-1.

  This change is acceptable because ITS LCO 3.4.2, RCS Minimum Temperature for Criticality, provides the minimum reactor coolant temperature limits for MODES 1 and 2. Therefore, the 325°F minimum temperature does not provide any useful information in ITS Table 1.1-1, and is deleted from the CTS.

- CTS Table 1.2 MODE 6 upper limit on average reactor coolant temperature (< 140°F) is removed. In ITS Table 1.1-1, the MODE 6 average reactor coolant temperature limit is specified as "NA" (not applicable).

This change is acceptable because it eliminates a conflict in the CTS MODE Table. If the average coolant temperature exceeds the upper limit with the reactor vessel head closure bolts less than fully tensioned, the CTS Table could be misinterpreted as no MODE being applicable. This is not the intent of the CTS or ITS MODE 6 definitions. By removing the temperature reference, this ambiguity is eliminated.

- CTS Table 1.2 % RATED THERMAL POWER limit of 0% for MODES 3, 4, 5, and 6 is changed in ITS Table 1.1-1 to "NA" (not applicable).

  This change is acceptable because the reactivity and plant equipment limitations in MODES 3, 4, 5, and 6 do not allow power operation. Therefore, it is not necessary to have these restrictions in the MODE Table.

- CTS Table 1.2 contains the unit designators of percent (%) and degrees Fahrenheit (°F) next to the values. This is changed in ITS Table 1.1-1 by removing the designator from the individual value(s).

  This change is acceptable because the designators are contained in the labels associated with the columns. Therefore, it is not necessary to have these designators in the MODE Table.

These changes are designated as administrative because they result in no technical changes to the Technical Specifications.

A12 CTS 1.0 states, "The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications." The Note for ITS Section 1.1 states, "The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases." The ITS Note adds a clarification phrase that the defined terms also apply to the Bases.

The ITS Section 1.0 Note serves the same purpose as the CTS 1.0 statement. ITS Section 1.1 Note clarifies that the defined terms also apply to the Bases. This change is consistent with formatting requirements in the ISTS and is consistent with the current use. This change is designated as administrative because it does not represent a technical change to the Technical Specifications.

A13 **Unit 1 only:** CTS Section 1.0 provides a definition of SHUTDOWN MARGIN (SDM). An *note to Unit 1 CTS 4.1.1.1.1.e.2 modifies the CTS definition by stating that for Modes 3 and 4, during calculation of shutdown margin with all CEA's verified fully inserted, the single CEA with the highest reactivity worth need not be assumed to be stuck in the fully withdrawn position. The definition of SDM in ITS Section 1.1 incorporates the aspect of the CTS *note by clarifying, "However, with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation."

This changes the CTS by embedding the *note in Unit 1 CTS 4.1.1.1.1.e.2 into the SDM definition. Although not explicitly stated, the intent of the Unit 1 CTS *note is based on the CEA position indicating system design for plants with a Combustion Engineering nuclear steam supply system, which includes independent and diverse methods of verifying CEA position. Therefore, the ITS definition of SDM clarifies this intent of verifying the CEAs are fully inserted by two independent means.

This change is designated as administrative because it does not represent a technical change to the method of calculating SDM when the CEAs are verified fully inserted by two independent means.

Unit 2 CTS related to SDM does not contain a clarifying note like the *note in Unit 1 CTS 4.1.1.1.1.e.2 and the *note in the Unit 1 CTS is limited to Modes 3 and 4. The equivalent change to the Unit 2 SDM definition and the expanded allowance for Unit 1 SDM definition to include all modes with CEAs inserted are discussed in DOC L03.

A14 CTS 1.22, PRESSURE BOUNDARY LEAKAGE, states that PRESSURE BOUNDARY LEAKAGE shall be leakage (except primary-to-secondary LEAKAGE) through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall." The ITS definition states that "Pressure Boundary LEAKAGE is LEAKAGE (except primary to secondary LEAKAGE) through a fault in an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE." This changes the CTS by revising the pressure boundary LEAKAGE definition to delete the word "non-isolable and adding the sentence "LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE." These changes are consistent with Technical Specification Task Force (TSTF) traveler TSTF-554-A, Revision 1, "Revise Reactor Coolant Leakage Requirements." As stated in the NRC Safety Evaluation (SE) accompanying TSTF-554-A, deletion of the word "nonisolable" does not alter the fundamental meaning that pressure boundary leakage represents degradation that could ultimately result in a loss of structural integrity. The NRC concluded that deleting the word "nonisolable" provides a clearer definition of pressure boundary leakage and does not conflict with the reactor coolant pressure boundary definition in 10 CFR 50.2. Additionally, the sentence "LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE," is consistent with the discussion in NRC Regulatory Guide 1.45 that pressure boundary leakage is not leakage from seals, gaskets, or packing. That considered, the changes to the definition of pressure boundary leakage are acceptable.

TSTF traveler TSTF-554-A incorporated changes to the Standard Technical Specifications (STSs) under the consolidated line item improvement process (CLIIP). TSTF-554-A was approved for use by the NRC as documented in the accompanying SE dated December 18, 2020 (ADAMS Accession No. ML20322A361, ML20322A024). PSL has reviewed the NRC SE and concluded that the justification presented in TSTF-554-A and the SE prepared by the NRC staff are applicable to PSL and justify this change. TSTF-554-A revised the technical specifications related to the LEAKAGE definition. Related changes are made to ITS 3.4.13, RCS Operational LEAKAGE, as discussed in ITS 3.4.13 DOC L01.

This change is designated as administrative because it provides clarification and does not represent a technical change to the Technical Specifications.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA01 *(Type 3 – Removing Procedural Details for Meeting TS Requirements or Reporting Requirements)* The ITS definition for AXIAL SHAPE INDEX moves the discussion and equation regarding modification of the trip signals in the reactor protection system to determine the core axial power distribution for a given channel to the COLR. The AXIAL SHAPE INDEX curves are provided in the COLR.

CTS 2.2.1 requires reactor protective instrumentation setpoints be set consistent with the Trip Setpoint values shown in Table 2.2-1, Reactor Protective Instrumentation Trip Setpoint Limits. The Applicability is for each channel in Table 3.3-1, Reactor Protective Instrumentation. CTS 3.2.1 Action references COLR Figure 3.2-2, “AXIAL SHAPE INDEX vs. Maximum Allowable Power Level” and CTS LCO 3.2.5.d references COLR Figure 3.2-4 “AXIAL SHAPE INDEX Operating Limits vs. THERMAL POWER.”

ITS LCO 3.2.1 requires that the LHR shall not exceed the limits specified in the COLR, and ITS LCO 3.2.5 requires that the ASI shall not exceed the limits specified in the COLR.

The removal of these details for performing actions from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS still retains AXIAL SHAPE INDEX regarding modification of the trip signals in the reactor protection system to determine the core axial power distribution for a given channel. Also, this change is acceptable because these types of procedural details will be adequately controlled in the COLR. This change is designated as a less restrictive removal of detail change because procedural details for meeting Technical Specification requirements are being removed from the Technical Specifications.

LA02 *(Type 4 – Removal of LCO, SR, or other TS requirement to the TRM, UFSAR, ODCM, QAP, CLRT Program, IST Program, ISI Program, or Surveillance Frequency Control Program).* CTS 1.13 and CTS Table 1.1 state FREQUENCY NOTATION for the performance of Surveillance Requirements in the CTS. The ITS state periodic Frequency as "In accordance with the Surveillance Frequency Control Program." The CTS have implemented the Surveillance Frequency Control Program. This changes the CTS by deleting the FREQUENCY NOTATION definition and moving the FREQUENCY NOTATION Table to the Surveillance Frequency Control Program.

The removal of FREQUENCY NOTATION for the performance of Surveillance Requirements from the Technical Specifications is acceptable because this type of information is not necessary to be included in the Technical Specifications to provide adequate protection of public health and safety. The ITS retains the requirement by stating "In accordance with the Surveillance Frequency Control Program". This change is acceptable because these types of procedural details will be adequately controlled in the Surveillance Frequency Control Program. This change is designated as a less restrictive removal of detail change because the FREQUENCY NOTATION for the performance of Surveillance Frequencies is being removed from the Technical Specifications and placed in a license control document.

LA03 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 1.2, OPERATIONAL MODES, states that MODE 6 is restricted to reactivity conditions with $k_{eff} \leq 0.95$. ITS Table 1.1-1, MODES, does not contain this restriction.

This change is acceptable because the core reactivity requirements for MODE 6 are covered in ITS 3.9.1, "Boron Concentration," by requiring the boron concentration in the Reactor Coolant System to be maintained within the limits specified in the COLR. The ITS LCO section of the 3.9.1 Bases states "The boron concentration limit specified in the COLR ensures that a core k_{eff} of ≤ 0.95 is maintained during fuel handling operations." Moving this detail from the MODE Table to the LCO 3.9.1 Bases eliminates the potential to misinterpret the MODE table and not apply the MODE 6 requirements if the reactor vessel head closure bolts are less than fully tensioned, fuel is in the reactor vessel, and core reactivity exceeds a keff of 0.95. ITS LCO 3.9.1 will ensure that the appropriate reactivity conditions are maintained in MODE 6, so it is not necessary to have this restriction in the MODE Table in order to provide adequate protection of the public health and safety. Once moved to the Bases, any changes to the core reactivity requirement will be controlled by the Technical Specifications Bases Control Program described in Chapter 5 of the ITS. This change is designated a less restrictive removal of detail because it moves information from the Technical Specifications to the Bases.

<u>LESS RESTRICTIVE CHANGES</u>

L01 CTS Section 1.0 definition of CHANNEL FUNCTIONAL TEST requires the use of a simulated signal when performing the test. ITS Section 1.1 allows the use of a simulated or actual signal when performing the test. This changes the CTS by allowing the use of unplanned actuations to perform the Surveillance based on the collection of sufficient information to satisfy the surveillance test requirements.

This change is acceptable because the channel itself cannot discriminate between an "actual" or "simulated" signal. Therefore, the results of the testing are unaffected by the type of signal used to initiate the test. This change is designated as less restrictive because it allows an actual signal to be credited for Surveillance where only a simulated signal was previously allowed.

L02 CTS Section 1.0 definition of Engineered Safety Feature (ESF) Response Time and Reactor Protection System (RPS) response time require that 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. ITS Section 1.1 allows components to be evaluated in accordance with an NRC approved methodology.

The change revises the CTS definition for ESF Response Time and RPS response time that are referenced in Surveillance Requirements (SRs), hereafter referred to as response time testing (RTT). The definitions are revised to add the statement “or the components have been evaluated in accordance with an NRC approved methodology” at the end of the last sentence in the definitions. The changes are based on Technical Specifications Task Force (TSTF) traveler TSTF-569, Revision 2, “Revise Response Time Testing Definition,” dated June 25, 2019 (ADAMS Accession No. ML19176A034). The NRC issued a final safety evaluation (SE) approving TSTF-569, Revision 2, on August 14, 2019 (ADAMS Accession No. ML19176A191). PSL is not proposing any variations from the TS changes described in TSTF-569, Revision 2, or the applicable parts of the NRC SE of TSTF-569, Revision 2.

This change is acceptable because the changes are based on TSTF-569, Revision 2 and there are no proposed variations from the TS changes described in TSTF-569, Revision 2. This change is designated as less restrictive because it allows use of additional NRC approved methodology for evaluation of RTT.

L03 **Unit 2 only:** CTS Section 1.0 definition of SHUTDOWN MARGIN (SDM) requires that the calculation assume that all CEAs (shutdown and regulating) are fully inserted except for the single CEA of highest reactivity worth which is assumed to be fully withdrawn. The ITS definition allows that with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation.

This change revises the Technical Specifications to include the allowance that with all CEAs verified inserted by two independent means, it is not necessary to account for a stuck CEA in determination of SDM. Consistent with the Combustion Engineering nuclear steam supply system design, the PSL Unit 1 and Unit 2 design include two independent and diverse CEA position indicating systems. The independent systems are the pulse counting CEA position indication system and the reed switch CEA position indication system.

This change is acceptable because the CTS definition was developed considering a worst case condition to assure sufficient SDM is available. However, if all rods can be verified to be fully inserted, the worst case condition is not applicable and the requirement to assume a rod is stuck in the fully withdrawn position is overly conservative and unnecessary to assure safe plant operation. The provision of the ITS exception that requires the rod positions to be verified by two independent means provides adequate assurance that all rods are fully inserted and that SDM may be calculated without the conservative assumption of a fully withdrawn rod. PSL Unit 1 and Unit 2 design provide two independent systems to verify all CEAs are fully inserted. This change is designated as less restrictive because it allows for an exception to the CTS requirements.

Improved Standard Technical Specifications (ISTS) Markup and Justification for Deviations (JFDs)

1.0 USE AND APPLICATION

1.1 Definitions

--NOTE--
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

Term	Definition
1.1 ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
1.2 AXIAL SHAPE INDEX (ASI)	ASI shall be the power generated in the lower half of the core less the power generated in the upper half of the core, divided by the sum of the power generated in the lower and upper halves of the core. ASI = (LOWER - UPPER) / (LOWER + UPPER)
~~AZIMUTHAL POWER TILT (T_q) - Digital~~	~~AZIMUTHAL POWER TILT shall be the power asymmetry between azimuthally symmetric fuel assemblies.~~ 1
1.3 AZIMUTHAL POWER TILT (T_q) ~~- Analog~~	AZIMUTHAL POWER TILT shall be the maximum of the difference between the power generated in any core quadrant (upper or lower) (P_{quad}) and the average power of all quadrants (P_{avg}) in that half (upper or lower) of the core, divided by the average power of all quadrants in that half (upper or lower) of the core. $T_q = \text{Max} \mid (P_{quad} - P_{avg}) / P_{avg} \mid$ 1
1.4 CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST. 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. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps~~[~~, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step~~]~~. 1

1.1 Definitions

1.5 CHANNEL CHECK

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

1.6 CHANNEL FUNCTIONAL TEST

A CHANNEL FUNCTIONAL TEST shall be~~:~~

~~a. Analog and bistable channels –~~ the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY~~, and~~ . 1

~~b. Digital computer channels - the use of diagnostic programs to test digital computer hardware and the injection of simulated process data into the channel to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.~~ 1

The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps~~[~~, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step~~]~~. 2

1.9a CORE OPERATING LIMITS REPORT (COLR)

The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.

1.10 DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries per gram) that alone would produce the same dose when inhaled as the combined activities of iodine isotopes I-131, I-132, I-133, I-134, and I-135 actually present. The determination of DOSE EQUIVALENT I-131 shall be performed using

~~-------------------------- Reviewer's Note -----------------------------~~
~~The first set of thyroid dose conversion factors shall be used for plants licensed to 10 CFR 100.11. The following Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) conversion factors shall be used for plants licensed to 10 CFR 50.67.~~ 3
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1.1 Definitions

1.10 DOSE EQUIVALENT I-131 (continued)

~~[thyroid dose conversion factors from:~~

~~a. Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or~~

~~b. Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or~~ 3

~~c. ICRP-30, 1979, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity," or~~

~~d. Table 2.1 of EPA Federal Guidance Report No. 11, 1988, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."~~

~~OR~~

Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) dose conversion factors from Table 2.1 of EPA Federal Guidance Report No. 11.~~]~~ 3

1.11 DOSE EQUIVALENT XE-133 — DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides ~~[~~Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138~~]~~ actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using ~~[~~effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil" ~~or the average gamma disintegration energies as provided in ICRP Publication 38, "Radionuclide Transformations" or similar source]~~. 2 4

1.12 ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME — The 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

1.1 Definitions

1.12 ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME (continued)

applicable. 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, or the components have been evaluated in accordance with an NRC approved methodology.

1.16 INSERVICE TESTING PROGRAM

The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

1.15 LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;

2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known to not interfere with the operation of leakage detection systems; or

3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE);

1.34 b. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE; and

c. Pressure Boundary LEAKAGE

1.22 LEAKAGE (except primary to secondary LEAKAGE) through a fault in an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.

1.1 Definitions

1.20	MODE	A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.
1.19	OPERABLE – OPERABILITY	A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
1.21	PHYSICS TESTS	PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are: a. Described in Chapter ~~[~~14, Initial Test Program~~]~~ of the FSAR, 2 b. Authorized under the provisions of 10 CFR 50.59, or c. Otherwise approved by the Nuclear Regulatory Commission.
	~~PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)~~	~~The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits, including heatup and cooldown rates, for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.4.~~ 5
1.25	RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of ~~[3410]~~ 3020 MWt. 2

1.1 Definitions

1.26	REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until electrical power to the CEAs drive mechanism is interrupted. 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, or the components have been evaluated in accordance with an NRC approved methodology.
1.29	SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming~~:~~ ~~a.~~ All ~~full length~~ CEAs (shutdown and regulating) are fully inserted except for the single CEA of highest reactivity worth, which is assumed to be fully withdrawn. However, with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation. With any CEAs not capable of being fully inserted, the reactivity worth of these CEAs must be accounted for in the determination of SDM~~, and~~ . 8 1 ~~[b. There is no change in part length CEA position.]~~ 2
	~~[STAGGERED TEST BASIS~~	~~A STAGGERED TEST BASIS shall consist of 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.]~~ 2
1.33	THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

Table 1.1-1 (page 1 of 1)
MODES

MODE	TITLE	REACTIVITY CONDITION (k_{eff})	% RATED THERMAL POWER[a]	AVERAGE REACTOR COOLANT TEMPERATURE (°F)	
1	Power Operation	≥ 0.99	> 5	NA	
2	Startup	≥ 0.99	≤ 5	NA	
3	Hot Standby	< 0.99	NA	≥ ~~[350]~~ 325	2
4	Hot Shutdown[b]	< 0.99	NA	~~[350]~~ 325 > T_{avg} > ~~[~~200~~]~~	2
5	Cold Shutdown[b]	< 0.99	NA	≤ ~~[~~200~~]~~	2
6	Refueling[c]	NA	NA	NA	

(a) Excluding decay heat.

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

(c) One or more reactor vessel head closure bolts less than fully tensioned.

1.0 USE AND APPLICATION

1.2 Logical Connectors

PURPOSE	The purpose of this section is to explain the meaning of logical connectors. Logical connectors are used in Technical Specifications (TS) to discriminate between, and yet connect, discrete Conditions, Required Actions, Completion Times, Surveillances, and Frequencies. The only logical connectors that appear in TS are AND and OR. The physical arrangement of these connectors constitutes logical conventions with specific meanings.
BACKGROUND	Several levels of logic may be used to state Required Actions. These levels are identified by the placement (or nesting) of the logical connectors and by the number assigned to each Required Action. The first level of logic is identified by the first digit of the number assigned to a Required Action and the placement of the logical connector in the first level of nesting (i.e., left justified with the number of the Required Action). The successive levels of logic are identified by additional digits of the Required Action number and by successive indentions of the logical connectors. When logical connectors are used to state a Condition, Completion Time, Surveillance, or Frequency, only the first level of logic is used, and the logical connector is left justified with the statement of the Condition, Completion Time, Surveillance, or Frequency.
EXAMPLES	The following examples illustrate the use of logical connectors.

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Verify . . . AND A.2 Restore . . .	

In this example the logical connector AND is used to indicate that when in Condition A, both Required Actions A.1 and A.2 must be completed.

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Trip . . . OR A.2.1 Verify . . . AND A.2.2.1 Reduce . . . OR A.2.2.2 Perform . . . OR A.3 Align . . .	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three Actions may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indented position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).
DESCRIPTION	The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks, such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC Sources - Operating," Required Action B.2, requires declaring required feature(s) supported by an inoperable diesel generator, inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.

Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate

1.3 Completion Times

DESCRIPTION (continued)

Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

Once a Condition has been entered, subsequent trains, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

However, when a subsequent train, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within limits, the Completion Time(s) may be extended. To apply this Completion Time extension, two criteria must first be met. The subsequent inoperability:

a. Must exist concurrent with the first inoperability and

b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or

b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ."

1.3 Completion Times

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

The Required Actions of Condition B are to be in MODE 3 within 6 hours AND in MODE 5 within 36 hours. A total of 6 hours is allowed for reaching MODE 3 and a total of 36 hours (not 42 hours) is allowed for reaching MODE 5 from the time that Condition B was entered. If MODE 3 is reached within 3 hours, the time allowed for reaching MODE 5 is the next 33 hours because the total time allowed for reaching MODE 5 is 36 hours.

If Condition B is entered while in MODE 3, the time allowed for reaching MODE 5 is the next 36 hours.

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pump inoperable.	A.1 Restore pump to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

When a pump is declared inoperable, Condition A is entered. If the pump is not restored to OPERABLE status within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable pump is restored to OPERABLE status after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

When a second pump is declared inoperable while the first pump is still inoperable, Condition A is not re-entered for the second pump. LCO 3.0.3 is entered, since the ACTIONS do not include a Condition for more than one inoperable pump. The Completion Time clock for Condition A does not stop after LCO 3.0.3 is entered, but continues to be tracked from the time Condition A was initially entered.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has not expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition A.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition B. The Completion Time for Condition B is tracked from the time the Condition A Completion Time expired.

1.3 Completion Times

EXAMPLES (continued)

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours
C. One Function X train inoperable. AND One Function Y train inoperable.	C.1 Restore Function X train to OPERABLE status. OR C.2 Restore Function Y train to OPERABLE status.	72 hours 72 hours

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

1.3 Completion Times

EXAMPLES (continued)

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

EXAMPLE 1.3-4

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve(s) to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

A single Completion Time is used for any number of valves inoperable at the same time. The Completion Time associated with Condition A is based on the initial entry into Condition A and is not tracked on a per valve basis. Declaring subsequent valves inoperable, while Condition A is still in effect, does not trigger the tracking of separate Completion Times.

1.3 Completion Times

EXAMPLES (continued)

Once one of the valves has been restored to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first valve was declared inoperable. The Completion Time may be extended if the valve restored to OPERABLE status was the first inoperable valve. The Condition A Completion Time may be extended for up to 4 hours provided this does not result in any subsequent valve being inoperable for > 4 hours.

If the Completion Time of 4 hours (including the extension) expires while one or more valves are still inoperable, Condition B is entered.

<u>EXAMPLE 1.3-5</u>

ACTIONS

---NOTE---
Separate Condition entry is allowed for each inoperable valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	6 hours 12 hours

The Note above the ACTIONS Table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

1.3 Completion Times

EXAMPLES (continued)

The Note allows Condition A to be entered separately for each inoperable valve, and Completion Times tracked on a per valve basis. When a valve is declared inoperable, Condition A is entered and its Completion Time starts. If subsequent valves are declared inoperable, Condition A is entered for each valve and separate Completion Times start and are tracked for each valve.

If the Completion Time associated with a valve in Condition A expires, Condition B is entered for that valve. If the Completion Times associated with subsequent valves in Condition A expire, Condition B is entered separately for each valve and separate Completion Times start and are tracked for each valve. If a valve that caused entry into Condition B is restored to OPERABLE status, Condition B is exited for that valve.

Since the Note in this example allows multiple Condition entry and tracking of separate Completion Times, Completion Time extensions do not apply.

<u>EXAMPLE 1.3-6</u>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x. <u>OR</u> A.2 Reduce THERMAL POWER to $\leq$ 50% RTP.	Once per 8 hours 8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

1.3 Completion Times

EXAMPLES (continued)

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a "once per" Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered.

If after entry into Condition B, Required Action A.1 or A.2 is met, Condition B is exited and operation may then continue in Condition A.

<u>EXAMPLE 1.3-7</u>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Verify affected subsystem isolated. <u>AND</u> A.2 Restore subsystem to OPERABLE status.	1 hour <u>AND</u> Once per 8 hours thereafter 72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 5.	6 hours 36 hours

1.3 Completion Times

EXAMPLES (continued)

Required Action A.1 has two Completion Times. The 1 hour Completion Time begins at the time the Condition is entered and each "Once per 8 hours thereafter" interval begins upon performance of Required Action A.1.

If after Condition A is entered, Required Action A.1 is not met within either the initial 1 hour or any subsequent 8 hour interval from the previous performance (plus the extension allowed by SR 3.0.2), Condition B is entered. The Completion Time clock for Condition A does not stop after Condition B is entered, but continues from the time Condition A was initially entered. If Required Action A.1 is met after Condition B is entered, Condition B is exited and operation may continue in accordance with Condition A, provided the Completion Time for Required Action A.2 has not expired.

~~------------------------------ Reviewer's Note ------------------------------~~
~~Example 1.3-8 is only applicable to plants that have adopted the Risk Informed Completion Time Program.~~
~~--~~ 6

~~[~~EXAMPLE 1.3-8 2

ACTIONS 6

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days OR In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

1.3 Completion Times

EXAMPLES (continued)

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition B must also be entered.

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B may be terminated. ~~]~~ 1

IMMEDIATE COMPLETION TIME — When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

PURPOSE	The purpose of this section is to define the proper use and application of Frequency requirements.
DESCRIPTION	Each Surveillance Requirement (SR) has a specified Frequency in which the Surveillance must be met in order to meet the associated LCO. An understanding of the correct application of the specified Frequency is necessary for compliance with the SR.

The "specified Frequency" is referred to throughout this section and each of the Specifications of Section 3.0~~.2~~, Surveillance Requirement (SR) Applicability. The "specified Frequency" consists of the requirements of the Frequency column of each SR, as well as certain Notes in the Surveillance column that modify performance requirements. 7

Sometimes special situations dictate when the requirements of a Surveillance are to be met. They are "otherwise stated" conditions allowed by SR 3.0.1. They may be stated as clarifying Notes in the Surveillance, as part of the Surveillances, or both.

Situations where a Surveillance could be required (i.e., its Frequency could expire), but where it is not possible or not desired that it be performed until sometime after the associated LCO is within its Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the SR (i.e., the Surveillance or the Frequency) is stated such that it is only "required" when it can be and should be performed. With an SR satisfied, SR 3.0.4 imposes no restriction.

The use of "met" or "performed" in these instances conveys specific meanings. A Surveillance is "met" only when the acceptance criteria are satisfied. Known failure of the requirements of a Surveillance, even without a Surveillance specifically being "performed," constitutes a Surveillance not "met." "Performance" refers only to the requirement to specifically determine the ability to meet the acceptance criteria.

Some Surveillances contain Notes that modify the Frequency of performance or the conditions during which the acceptance criteria must be satisfied. For these Surveillances, the MODE-entry restrictions of SR 3.0.4 may not apply. Such a Surveillance is not required to be performed prior to entering a MODE or other specified condition in the Applicability of the associated LCO if any of the following three conditions are satisfied:

1.4 Frequency

DESCRIPTION (continued)

a. The Surveillance is not required to be met in the MODE or other specified condition to be entered; or

b. The Surveillance is required to be met in the MODE or other specified condition to be entered, but has been performed within the specified Frequency (i.e., it is current) and is known not to be failed; or

c. The Surveillance is required to be met, but not performed, in the MODE or other specified condition to be entered, and is known not to be failed.

Examples 1.4-3, 1.4-4, 1.4-5, and 1.4-6 discuss these special situations.

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified. In these examples, the Applicability of the LCO (LCO not shown) is MODES 1, 2, and 3.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, then SR 3.0.4 becomes applicable. The Surveillance must be performed within the Frequency requirements of SR 3.0.2, as modified by SR 3.0.3, prior to entry into the MODE or other specified condition or the LCO is considered not met (in accordance with SR 3.0.1) and LCO 3.0.4 becomes applicable.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after $\geq$ 25% RTP AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level < 25% RTP to $\geq$ 25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
-----------------------------NOTE----------------------------- Not required to be performed until 12 hours after ≥ 25% RTP. --- Perform channel adjustment.	7 days

The interval continues, whether or not the unit operation is < 25% RTP between performances.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is < 25% RTP, this Note allows 12 hours after power reaches ≥ 25% RTP to perform the Surveillance. The Surveillance is still considered to be performed within the "specified Frequency." Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was < 25% RTP, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not exceed 12 hours (plus the extension allowed by SR 3.0.2) with power ≥ 25% RTP.

Once the unit reaches 25% RTP, 12 hours would be allowed for completing the Surveillance. If the Surveillance were not performed within this 12 hour interval (plus the extension allowed by SR 3.0.2), there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------------------------NOTE---------------------------- Only required to be met in MODE 1. --	
Verify leakage rates are within limits.	24 hours

Example 1.4-4 specifies that the requirements of this Surveillance do not have to be met until the unit is in MODE 1. The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour interval (plus the extension allowed by SR 3.0.2), but the unit was not in MODE 1, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES, even with the 24 hour Frequency exceeded, provided the MODE change was not made into MODE 1. Prior to entering MODE 1 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
-----------------------------NOTE----------------------------- Only required to be performed in MODE 1. -- Perform complete cycle of the valve.	7 days

The interval continues, whether or not the unit operation is in MODE 1, 2, or 3 (the assumed Applicability of the associated LCO) between performances.

As the Note modifies the required performance of the Surveillance, the Note is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is not in MODE 1, this Note allows entry into and operation in MODES 2 and 3 to perform the Surveillance. The Surveillance is still considered to be performed within the "specified Frequency" if completed prior to entering MODE 1. Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was not in MODE 1, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not result in entry into MODE 1.

Once the unit reaches MODE 1, the requirement for the Surveillance to be performed within its specified Frequency applies and would require that the Surveillance had been performed. If the Surveillance were not performed prior to entering MODE 1, there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-6

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
---------------------------NOTE--------------------------- Not required to be met in MODE 3. ---	
Verify parameter is within limits.	24 hours

Example 1.4-~~[~~6~~]~~ specifies that the requirements of this Surveillance do not have to be met while the unit is in MODE 3 (the assumed Applicability of the associated LCO is MODES 1, 2, and 3). The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour interval (plus the extension allowed by SR 3.0.2), and the unit was in MODE 3, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES to enter MODE 3, even with the 24 hour Frequency exceeded, provided the MODE change does not result in entry into MODE 2. Prior to entering MODE 2 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR. 1

1.0 USE AND APPLICATION

1.1 Definitions

---NOTE---
The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

	Term	Definition	
1.1	ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.	
1.2	AXIAL SHAPE INDEX (ASI)	ASI shall be the power generated in the lower half of the core less the power generated in the upper half of the core, divided by the sum of the power generated in the lower and upper halves of the core. ASI = (LOWER - UPPER) / (LOWER + UPPER)	
	~~AZIMUTHAL POWER TILT (T_q) - Digital~~	~~AZIMUTHAL POWER TILT shall be the power asymmetry between azimuthally symmetric fuel assemblies.~~	1
1.3	AZIMUTHAL POWER TILT (T_q) ~~- Analog~~	AZIMUTHAL POWER TILT shall be the maximum of the difference between the power generated in any core quadrant (upper or lower) (P_{quad}) and the average power of all quadrants (P_{avg}) in that half (upper or lower) of the core, divided by the average power of all quadrants in that half (upper or lower) of the core. $T_q = \text{Max} \ \lvert (P_{quad} - P_{avg}) / P_{avg} \rvert$	1
1.4	CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST. 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. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps~~[~~, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step~~]~~.	1

1.1 Definitions

1.5 CHANNEL CHECK

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

1.6 CHANNEL FUNCTIONAL TEST

A CHANNEL FUNCTIONAL TEST shall be~~:~~

~~a. Analog and bistable channels –~~ the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY~~, and~~ . 1

~~b. Digital computer channels - the use of diagnostic programs to test digital computer hardware and the injection of simulated process data into the channel to verify OPERABILITY of all devices in the channel required for channel OPERABILITY.~~ 1

The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps~~[~~, and each step must be performed within the Frequency in the Surveillance Frequency Control Program for the devices included in the step~~]~~. 2

1.9a CORE OPERATING LIMITS REPORT (COLR)

The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific parameter limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.

1.10 DOSE EQUIVALENT I-131

DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries per gram) that alone would produce the same dose when inhaled as the combined activities of iodine isotopes I-131, I-132, I-133, I-134, and I-135 actually present. The determination of DOSE EQUIVALENT I-131 shall be performed using

~~-------------------------- Reviewer's Note -----------------------------~~
~~The first set of thyroid dose conversion factors shall be used for plants licensed to 10 CFR 100.11. The following Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) conversion factors shall be used for plants licensed to 10 CFR 50.67.~~ 3
~~---~~

1.1 Definitions

1.10 DOSE EQUIVALENT I-131 (continued)

~~[thyroid dose conversion factors from:~~

~~a. Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or~~

~~b. Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or~~ 3

~~c. ICRP-30, 1979, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity," or~~

~~d. Table 2.1 of EPA Federal Guidance Report No. 11, 1988, "Limiting Values of Radionuclide Intake and Air Concentration and Dose Conversion Factors for Inhalation, Submersion, and Ingestion."~~

~~OR~~

Committed Dose Equivalent (CDE) or Committed Effective Dose Equivalent (CEDE) dose conversion factors from Table 2.1 of EPA Federal Guidance Report No. 11.~~]~~ 3

1.11 DOSE EQUIVALENT XE-133 — DOSE EQUIVALENT XE-133 shall be that concentration of Xe-133 (microcuries per gram) that alone would produce the same acute dose to the whole body as the combined activities of noble gas nuclides ~~[~~Kr-85m, Kr-85, Kr-87, Kr-88, Xe-131m, Xe-133m, Xe-133, Xe-135m, Xe-135, and Xe-138~~]~~ actually present. If a specific noble gas nuclide is not detected, it should be assumed to be present at the minimum detectable activity. The determination of DOSE EQUIVALENT XE-133 shall be performed using ~~[~~effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil" ~~or the average gamma disintegration energies as provided in ICRP Publication 38, "Radionuclide Transformations" or similar source]~~. 2 4

1.12 ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME — The 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

1.1 Definitions

1.12 ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME (continued)

applicable. 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, or the components have been evaluated in accordance with an NRC approved methodology.

1.16 INSERVICE TESTING PROGRAM

The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

1.15 LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except reactor coolant pump (RCP) seal water injection or leakoff), that is captured and conducted to collection systems or a sump or collecting tank;

2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known to not interfere with the operation of leakage detection systems; or

3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE);

1.34 b. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE; and

1.22 c. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a fault in an RCS component body, pipe wall, or vessel wall. LEAKAGE past seals, packing, and gaskets is not pressure boundary LEAKAGE.

1.1 Definitions

1.20 MODE

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

1.19 OPERABLE – OPERABILITY

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

1.21 PHYSICS TESTS

PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation.

These tests are:

a. Described in Chapter ~~[~~14, Initial Test Program~~]~~ of the FSAR, 2

b. Authorized under the provisions of 10 CFR 50.59, or

c. Otherwise approved by the Nuclear Regulatory Commission.

~~PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)~~

~~The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits, including heatup and cooldown rates, for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.4.~~ 5

1.25 RATED THERMAL POWER (RTP)

RTP shall be a total reactor core heat transfer rate to the reactor coolant of ~~[3410]~~ 3020 MWt. 2

1.1 Definitions

1.26	REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until electrical power to the CEAs drive mechanism is interrupted. 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, or the components have been evaluated in accordance with an NRC approved methodology.
1.29	SHUTDOWN MARGIN (SDM)	SDM shall be the instantaneous amount of reactivity by which the reactor is subcritical or would be subcritical from its present condition assuming~~:~~ ~~a.~~ All ~~full length~~ CEAs (shutdown and regulating) are fully inserted except for the single CEA of highest reactivity worth, which is assumed to be fully withdrawn. However, with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation. With any CEAs not capable of being fully inserted, the reactivity worth of these CEAs must be accounted for in the determination of SDM~~, and~~ . 8 1 ~~[b. There is no change in part length CEA position.]~~ 2
	~~[STAGGERED TEST BASIS~~	~~A STAGGERED TEST BASIS shall consist of 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.]~~ 2
1.33	THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.

Table 1.1-1 (page 1 of 1)
MODES

MODE	TITLE	REACTIVITY CONDITION (k_{eff})	% RATED THERMAL POWER[a]	AVERAGE REACTOR COOLANT TEMPERATURE (°F)	
1	Power Operation	≥ 0.99	> 5	NA	
2	Startup	≥ 0.99	≤ 5	NA	
3	Hot Standby	< 0.99	NA	≥ 325 ~~[350]~~	2
4	Hot Shutdown[b]	< 0.99	NA	325 ~~[350]~~ > T_{avg} > ~~[~~200~~]~~	2
5	Cold Shutdown[b]	< 0.99	NA	≤ ~~[~~200~~]~~	2
6	Refueling[c]	NA	NA	NA	

(a) Excluding decay heat.

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

(c) One or more reactor vessel head closure bolts less than fully tensioned.

1.0 USE AND APPLICATION

1.2 Logical Connectors

PURPOSE	The purpose of this section is to explain the meaning of logical connectors. Logical connectors are used in Technical Specifications (TS) to discriminate between, and yet connect, discrete Conditions, Required Actions, Completion Times, Surveillances, and Frequencies. The only logical connectors that appear in TS are <u>AND</u> and <u>OR</u>. The physical arrangement of these connectors constitutes logical conventions with specific meanings.
BACKGROUND	Several levels of logic may be used to state Required Actions. These levels are identified by the placement (or nesting) of the logical connectors and by the number assigned to each Required Action. The first level of logic is identified by the first digit of the number assigned to a Required Action and the placement of the logical connector in the first level of nesting (i.e., left justified with the number of the Required Action). The successive levels of logic are identified by additional digits of the Required Action number and by successive indentions of the logical connectors. When logical connectors are used to state a Condition, Completion Time, Surveillance, or Frequency, only the first level of logic is used, and the logical connector is left justified with the statement of the Condition, Completion Time, Surveillance, or Frequency.
EXAMPLES	The following examples illustrate the use of logical connectors.

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Verify . . . AND A.2 Restore . . .	

In this example the logical connector AND is used to indicate that when in Condition A, both Required Actions A.1 and A.2 must be completed.

1.2 Logical Connectors

EXAMPLES (continued)

EXAMPLE 1.2-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. LCO not met.	A.1 Trip . . . OR A.2.1 Verify . . . AND A.2.2.1 Reduce . . . OR A.2.2.2 Perform . . . OR A.3 Align . . .	

This example represents a more complicated use of logical connectors. Required Actions A.1, A.2, and A.3 are alternative choices, only one of which must be performed as indicated by the use of the logical connector OR and the left justified placement. Any one of these three Actions may be chosen. If A.2 is chosen, then both A.2.1 and A.2.2 must be performed as indicated by the logical connector AND. Required Action A.2.2 is met by performing A.2.2.1 or A.2.2.2. The indented position of the logical connector OR indicates that A.2.2.1 and A.2.2.2 are alternative choices, only one of which must be performed.

1.0 USE AND APPLICATION

1.3 Completion Times

PURPOSE	The purpose of this section is to establish the Completion Time convention and to provide guidance for its use.
BACKGROUND	Limiting Conditions for Operation (LCOs) specify minimum requirements for ensuring safe operation of the unit. The ACTIONS associated with an LCO state Conditions that typically describe the ways in which the requirements of the LCO can fail to be met. Specified with each stated Condition are Required Action(s) and Completion Time(s).

DESCRIPTION

The Completion Time is the amount of time allowed for completing a Required Action. It is referenced to the discovery of a situation (e.g., inoperable equipment or variable not within limits) that requires entering an ACTIONS Condition unless otherwise specified, providing the unit is in a MODE or specified condition stated in the Applicability of the LCO.

Unless otherwise specified, the Completion Time begins when a senior licensed operator on the operating shift crew with responsibility for plant operations makes the determination that an LCO is not met and an ACTIONS Condition is entered. The "otherwise specified" exceptions are varied, such as a Required Action Note or Surveillance Requirement Note that provides an alternative time to perform specific tasks, such as testing, without starting the Completion Time. While utilizing the Note, should a Condition be applicable for any reason not addressed by the Note, the Completion Time begins. Should the time allowance in the Note be exceeded, the Completion Time begins at that point. The exceptions may also be incorporated into the Completion Time. For example, LCO 3.8.1, "AC Sources - Operating," Required Action B.2, requires declaring required feature(s) supported by an inoperable diesel generator, inoperable when the redundant required feature(s) are inoperable. The Completion Time states, "4 hours from discovery of Condition B concurrent with inoperability of redundant required feature(s)." In this case the Completion Time does not begin until the conditions in the Completion Time are satisfied.

Required Actions must be completed prior to the expiration of the specified Completion Time. An ACTIONS Condition remains in effect and the Required Actions apply until the Condition no longer exists or the unit is not within the LCO Applicability.

If situations are discovered that require entry into more than one Condition at a time within a single LCO (multiple Conditions), the Required Actions for each Condition must be performed within the associated Completion Time. When in multiple Conditions, separate

1.3 Completion Times

DESCRIPTION (continued)

Completion Times are tracked for each Condition starting from the discovery of the situation that required entry into the Condition, unless otherwise specified.

Once a Condition has been entered, subsequent trains, subsystems, components, or variables expressed in the Condition, discovered to be inoperable or not within limits, will not result in separate entry into the Condition, unless specifically stated. The Required Actions of the Condition continue to apply to each additional failure, with Completion Times based on initial entry into the Condition, unless otherwise specified.

However, when a subsequent train, subsystem, component, or variable expressed in the Condition is discovered to be inoperable or not within limits, the Completion Time(s) may be extended. To apply this Completion Time extension, two criteria must first be met. The subsequent inoperability:

a. Must exist concurrent with the first inoperability and

b. Must remain inoperable or not within limits after the first inoperability is resolved.

The total Completion Time allowed for completing a Required Action to address the subsequent inoperability shall be limited to the more restrictive of either:

a. The stated Completion Time, as measured from the initial entry into the Condition, plus an additional 24 hours or

b. The stated Completion Time as measured from discovery of the subsequent inoperability.

The above Completion Time extensions do not apply to those Specifications that have exceptions that allow completely separate re-entry into the Condition (for each train, subsystem, component, or variable expressed in the Condition) and separate tracking of Completion Times based on this re-entry. These exceptions are stated in individual Specifications.

The above Completion Time extension does not apply to a Completion Time with a modified "time zero." This modified "time zero" may be expressed as a repetitive time (i.e., "once per 8 hours," where the Completion Time is referenced from a previous completion of the Required Action versus the time of Condition entry) or as a time modified by the phrase "from discovery . . ."

1.3 Completion Times

EXAMPLES

The following examples illustrate the use of Completion Times with different types of Conditions and changing Conditions.

EXAMPLE 1.3-1

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

Condition B has two Required Actions. Each Required Action has its own separate Completion Time. Each Completion Time is referenced to the time that Condition B is entered.

The Required Actions of Condition B are to be in MODE 3 within 6 hours AND in MODE 5 within 36 hours. A total of 6 hours is allowed for reaching MODE 3 and a total of 36 hours (not 42 hours) is allowed for reaching MODE 5 from the time that Condition B was entered. If MODE 3 is reached within 3 hours, the time allowed for reaching MODE 5 is the next 33 hours because the total time allowed for reaching MODE 5 is 36 hours.

If Condition B is entered while in MODE 3, the time allowed for reaching MODE 5 is the next 36 hours.

1.3 Completion Times

EXAMPLES (continued)

EXAMPLE 1.3-2

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One pump inoperable.	A.1 Restore pump to OPERABLE status.	7 days
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

When a pump is declared inoperable, Condition A is entered. If the pump is not restored to OPERABLE status within 7 days, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable pump is restored to OPERABLE status after Condition B is entered, Conditions A and B are exited, and therefore, the Required Actions of Condition B may be terminated.

When a second pump is declared inoperable while the first pump is still inoperable, Condition A is not re-entered for the second pump. LCO 3.0.3 is entered, since the ACTIONS do not include a Condition for more than one inoperable pump. The Completion Time clock for Condition A does not stop after LCO 3.0.3 is entered, but continues to be tracked from the time Condition A was initially entered.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has not expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition A.

While in LCO 3.0.3, if one of the inoperable pumps is restored to OPERABLE status and the Completion Time for Condition A has expired, LCO 3.0.3 may be exited and operation continued in accordance with Condition B. The Completion Time for Condition B is tracked from the time the Condition A Completion Time expired.

1.3 Completion Times

EXAMPLES (continued)

On restoring one of the pumps to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first pump was declared inoperable. This Completion Time may be extended if the pump restored to OPERABLE status was the first inoperable pump. A 24 hour extension to the stated 7 days is allowed, provided this does not result in the second pump being inoperable for > 7 days.

EXAMPLE 1.3-3

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One Function X train inoperable.	A.1 Restore Function X train to OPERABLE status.	7 days
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours
C. One Function X train inoperable. <u>AND</u> One Function Y train inoperable.	C.1 Restore Function X train to OPERABLE status. <u>OR</u> C.2 Restore Function Y train to OPERABLE status.	72 hours 72 hours

When one Function X train and one Function Y train are inoperable, Condition A and Condition B are concurrently applicable. The Completion Times for Condition A and Condition B are tracked separately for each train starting from the time each train was declared inoperable and the Condition was entered. A separate Completion Time is established for Condition C and tracked from the time the second train was declared inoperable (i.e., the time the situation described in Condition C was discovered).

1.3 Completion Times

EXAMPLES (continued)

If Required Action C.2 is completed within the specified Completion Time, Conditions B and C are exited. If the Completion Time for Required Action A.1 has not expired, operation may continue in accordance with Condition A. The remaining Completion Time in Condition A is measured from the time the affected train was declared inoperable (i.e., initial entry into Condition A).

It is possible to alternate between Conditions A, B, and C in such a manner that operation could continue indefinitely without ever restoring systems to meet the LCO. However, doing so would be inconsistent with the basis of the Completion Times. Therefore, there shall be administrative controls to limit the maximum time allowed for any combination of Conditions that result in a single contiguous occurrence of failing to meet the LCO. These administrative controls shall ensure that the Completion Times for those Conditions are not inappropriately extended.

<u>EXAMPLE 1.3-4</u>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve(s) to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. <u>AND</u> B.2 Be in MODE 4.	6 hours 12 hours

A single Completion Time is used for any number of valves inoperable at the same time. The Completion Time associated with Condition A is based on the initial entry into Condition A and is not tracked on a per valve basis. Declaring subsequent valves inoperable, while Condition A is still in effect, does not trigger the tracking of separate Completion Times.

1.3 Completion Times

EXAMPLES (continued)

Once one of the valves has been restored to OPERABLE status, the Condition A Completion Time is not reset, but continues from the time the first valve was declared inoperable. The Completion Time may be extended if the valve restored to OPERABLE status was the first inoperable valve. The Condition A Completion Time may be extended for up to 4 hours provided this does not result in any subsequent valve being inoperable for > 4 hours.

If the Completion Time of 4 hours (including the extension) expires while one or more valves are still inoperable, Condition B is entered.

EXAMPLE 1.3-5

ACTIONS

---NOTE---
Separate Condition entry is allowed for each inoperable valve.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more valves inoperable.	A.1 Restore valve to OPERABLE status.	4 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 4.	6 hours 12 hours

The Note above the ACTIONS Table is a method of modifying how the Completion Time is tracked. If this method of modifying how the Completion Time is tracked was applicable only to a specific Condition, the Note would appear in that Condition rather than at the top of the ACTIONS Table.

1.3 Completion Times

EXAMPLES (continued)

The Note allows Condition A to be entered separately for each inoperable valve, and Completion Times tracked on a per valve basis. When a valve is declared inoperable, Condition A is entered and its Completion Time starts. If subsequent valves are declared inoperable, Condition A is entered for each valve and separate Completion Times start and are tracked for each valve.

If the Completion Time associated with a valve in Condition A expires, Condition B is entered for that valve. If the Completion Times associated with subsequent valves in Condition A expire, Condition B is entered separately for each valve and separate Completion Times start and are tracked for each valve. If a valve that caused entry into Condition B is restored to OPERABLE status, Condition B is exited for that valve.

Since the Note in this example allows multiple Condition entry and tracking of separate Completion Times, Completion Time extensions do not apply.

<u>EXAMPLE 1.3-6</u>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x.	Once per 8 hours
	<u>OR</u>	
	A.2 Reduce THERMAL POWER to ≤ 50% RTP.	8 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours

1.3 Completion Times

EXAMPLES (continued)

Entry into Condition A offers a choice between Required Action A.1 or A.2. Required Action A.1 has a "once per" Completion Time, which qualifies for the 25% extension, per SR 3.0.2, to each performance after the initial performance. The initial 8 hour interval of Required Action A.1 begins when Condition A is entered and the initial performance of Required Action A.1 must be complete within the first 8 hour interval. If Required Action A.1 is followed and the Required Action is not met within the Completion Time (plus the extension allowed by SR 3.0.2), Condition B is entered. If Required Action A.2 is followed and the Completion Time of 8 hours is not met, Condition B is entered.

If after entry into Condition B, Required Action A.1 or A.2 is met, Condition B is exited and operation may then continue in Condition A.

<u>EXAMPLE 1.3-7</u>

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Verify affected subsystem isolated.	1 hour <u>AND</u> Once per 8 hours thereafter
	<u>AND</u>	
	A.2 Restore subsystem to OPERABLE status.	72 hours
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3.	6 hours
	<u>AND</u>	
	B.2 Be in MODE 5.	36 hours

1.3 Completion Times

EXAMPLES (continued)

Required Action A.1 has two Completion Times. The 1 hour Completion Time begins at the time the Condition is entered and each "Once per 8 hours thereafter" interval begins upon performance of Required Action A.1.

If after Condition A is entered, Required Action A.1 is not met within either the initial 1 hour or any subsequent 8 hour interval from the previous performance (plus the extension allowed by SR 3.0.2), Condition B is entered. The Completion Time clock for Condition A does not stop after Condition B is entered, but continues from the time Condition A was initially entered. If Required Action A.1 is met after Condition B is entered, Condition B is exited and operation may continue in accordance with Condition A, provided the Completion Time for Required Action A.2 has not expired.

~~----------------------------------- Reviewer's Note -----------------------------------~~
~~Example 1.3-8 is only applicable to plants that have adopted the Risk Informed Completion Time Program.~~
~~---~~ 6

~~[~~EXAMPLE 1.3-8 2

ACTIONS 6

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Restore subsystem to OPERABLE status.	7 days OR In accordance with the Risk Informed Completion Time Program
B. Required Action and associated Completion Time not met.	B.1 Be in MODE 3. AND B.2 Be in MODE 5.	6 hours 36 hours

1.3 Completion Times

EXAMPLES (continued)

When a subsystem is declared inoperable, Condition A is entered. The 7 day Completion Time may be applied as discussed in Example 1.3-2. However, the licensee may elect to apply the Risk Informed Completion Time Program which permits calculation of a Risk Informed Completion Time (RICT) that may be used to complete the Required Action beyond the 7 day Completion Time. The RICT cannot exceed 30 days. After the 7 day Completion Time has expired, the subsystem must be restored to OPERABLE status within the RICT or Condition B must also be entered.

The Risk Informed Completion Time Program requires recalculation of the RICT to reflect changing plant conditions. For planned changes, the revised RICT must be determined prior to implementation of the change in configuration. For emergent conditions, the revised RICT must be determined within the time limits of the Required Action Completion Time (i.e., not the RICT) or 12 hours after the plant configuration change, whichever is less.

If the 7 day Completion Time clock of Condition A has expired and subsequent changes in plant condition result in exiting the applicability of the Risk Informed Completion Time Program without restoring the inoperable subsystem to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start.

If the RICT expires or is recalculated to be less than the elapsed time since the Condition was entered and the inoperable subsystem has not been restored to OPERABLE status, Condition B is also entered and the Completion Time clocks for Required Actions B.1 and B.2 start. If the inoperable subsystems are restored to OPERABLE status after Condition B is entered, Condition A is exited, and therefore, the Required Actions of Condition B may be terminated. ~~]~~

IMMEDIATE COMPLETION TIME

When "Immediately" is used as a Completion Time, the Required Action should be pursued without delay and in a controlled manner.

1.0 USE AND APPLICATION

1.4 Frequency

PURPOSE	The purpose of this section is to define the proper use and application of Frequency requirements.
DESCRIPTION	Each Surveillance Requirement (SR) has a specified Frequency in which the Surveillance must be met in order to meet the associated LCO. An understanding of the correct application of the specified Frequency is necessary for compliance with the SR.

The "specified Frequency" is referred to throughout this section and each of the Specifications of Section 3.0~~.2~~, Surveillance Requirement (SR) Applicability. The "specified Frequency" consists of the requirements of the Frequency column of each SR, as well as certain Notes in the Surveillance column that modify performance requirements. 7

Sometimes special situations dictate when the requirements of a Surveillance are to be met. They are "otherwise stated" conditions allowed by SR 3.0.1. They may be stated as clarifying Notes in the Surveillance, as part of the Surveillances, or both.

Situations where a Surveillance could be required (i.e., its Frequency could expire), but where it is not possible or not desired that it be performed until sometime after the associated LCO is within its Applicability, represent potential SR 3.0.4 conflicts. To avoid these conflicts, the SR (i.e., the Surveillance or the Frequency) is stated such that it is only "required" when it can be and should be performed. With an SR satisfied, SR 3.0.4 imposes no restriction.

The use of "met" or "performed" in these instances conveys specific meanings. A Surveillance is "met" only when the acceptance criteria are satisfied. Known failure of the requirements of a Surveillance, even without a Surveillance specifically being "performed," constitutes a Surveillance not "met." "Performance" refers only to the requirement to specifically determine the ability to meet the acceptance criteria.

Some Surveillances contain Notes that modify the Frequency of performance or the conditions during which the acceptance criteria must be satisfied. For these Surveillances, the MODE-entry restrictions of SR 3.0.4 may not apply. Such a Surveillance is not required to be performed prior to entering a MODE or other specified condition in the Applicability of the associated LCO if any of the following three conditions are satisfied:

1.4 Frequency

DESCRIPTION (continued)

a. The Surveillance is not required to be met in the MODE or other specified condition to be entered; or

b. The Surveillance is required to be met in the MODE or other specified condition to be entered, but has been performed within the specified Frequency (i.e., it is current) and is known not to be failed; or

c. The Surveillance is required to be met, but not performed, in the MODE or other specified condition to be entered, and is known not to be failed.

Examples 1.4-3, 1.4-4, 1.4-5, and 1.4-6 discuss these special situations.

EXAMPLES

The following examples illustrate the various ways that Frequencies are specified. In these examples, the Applicability of the LCO (LCO not shown) is MODES 1, 2, and 3.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-1

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Perform CHANNEL CHECK.	12 hours

Example 1.4-1 contains the type of SR most often encountered in the Technical Specifications (TS). The Frequency specifies an interval (12 hours) during which the associated Surveillance must be performed at least one time. Performance of the Surveillance initiates the subsequent interval. Although the Frequency is stated as 12 hours, an extension of the time interval to 1.25 times the stated Frequency is allowed by SR 3.0.2 for operational flexibility. The measurement of this interval continues at all times, even when the SR is not required to be met per SR 3.0.1 (such as when the equipment is inoperable, a variable is outside specified limits, or the unit is outside the Applicability of the LCO). If the interval specified by SR 3.0.2 is exceeded while the unit is in a MODE or other specified condition in the Applicability of the LCO, and the performance of the Surveillance is not otherwise modified (refer to Example 1.4-3), then SR 3.0.3 becomes applicable.

If the interval as specified by SR 3.0.2 is exceeded while the unit is not in a MODE or other specified condition in the Applicability of the LCO for which performance of the SR is required, then SR 3.0.4 becomes applicable. The Surveillance must be performed within the Frequency requirements of SR 3.0.2, as modified by SR 3.0.3, prior to entry into the MODE or other specified condition or the LCO is considered not met (in accordance with SR 3.0.1) and LCO 3.0.4 becomes applicable.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-2

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
Verify flow is within limits.	Once within 12 hours after ≥ 25% RTP AND 24 hours thereafter

Example 1.4-2 has two Frequencies. The first is a one time performance Frequency, and the second is of the type shown in Example 1.4-1. The logical connector "AND" indicates that both Frequency requirements must be met. Each time reactor power is increased from a power level < 25% RTP to ≥ 25% RTP, the Surveillance must be performed within 12 hours.

The use of "once" indicates a single performance will satisfy the specified Frequency (assuming no other Frequencies are connected by "AND"). This type of Frequency does not qualify for the extension allowed by SR 3.0.2. "Thereafter" indicates future performances must be established per SR 3.0.2, but only after a specified condition is first met (i.e., the "once" performance in this example). If reactor power decreases to < 25% RTP, the measurement of both intervals stops. New intervals start upon reactor power reaching 25% RTP.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-3

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
-----------------------------NOTE----------------------------- Not required to be performed until 12 hours after ≥ 25% RTP. --- Perform channel adjustment.	7 days

The interval continues, whether or not the unit operation is < 25% RTP between performances.

As the Note modifies the required performance of the Surveillance, it is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is < 25% RTP, this Note allows 12 hours after power reaches ≥ 25% RTP to perform the Surveillance. The Surveillance is still considered to be performed within the "specified Frequency." Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was < 25% RTP, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not exceed 12 hours (plus the extension allowed by SR 3.0.2) with power ≥ 25% RTP.

Once the unit reaches 25% RTP, 12 hours would be allowed for completing the Surveillance. If the Surveillance were not performed within this 12 hour interval (plus the extension allowed by SR 3.0.2), there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-4

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------------------------NOTE---------------------------- Only required to be met in MODE 1. -- Verify leakage rates are within limits.	24 hours

Example 1.4-4 specifies that the requirements of this Surveillance do not have to be met until the unit is in MODE 1. The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour interval (plus the extension allowed by SR 3.0.2), but the unit was not in MODE 1, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES, even with the 24 hour Frequency exceeded, provided the MODE change was not made into MODE 1. Prior to entering MODE 1 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-5

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
------------------------------NOTE------------------------------ Only required to be performed in MODE 1. --	
Perform complete cycle of the valve.	7 days

The interval continues, whether or not the unit operation is in MODE 1, 2, or 3 (the assumed Applicability of the associated LCO) between performances.

As the Note modifies the required performance of the Surveillance, the Note is construed to be part of the "specified Frequency." Should the 7 day interval be exceeded while operation is not in MODE 1, this Note allows entry into and operation in MODES 2 and 3 to perform the Surveillance. The Surveillance is still considered to be performed within the "specified Frequency" if completed prior to entering MODE 1. Therefore, if the Surveillance were not performed within the 7 day (plus the extension allowed by SR 3.0.2) interval, but operation was not in MODE 1, it would not constitute a failure of the SR or failure to meet the LCO. Also, no violation of SR 3.0.4 occurs when changing MODES, even with the 7 day Frequency not met, provided operation does not result in entry into MODE 1.

Once the unit reaches MODE 1, the requirement for the Surveillance to be performed within its specified Frequency applies and would require that the Surveillance had been performed. If the Surveillance were not performed prior to entering MODE 1, there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

1.4 Frequency

EXAMPLES (continued)

EXAMPLE 1.4-6

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
----------------------------NOTE---------------------------- Not required to be met in MODE 3. --- Verify parameter is within limits.	 24 hours

Example 1.4-~~[~~6~~]~~ specifies that the requirements of this Surveillance do not have to be met while the unit is in MODE 3 (the assumed Applicability of the associated LCO is MODES 1, 2, and 3). The interval measurement for the Frequency of this Surveillance continues at all times, as described in Example 1.4-1. However, the Note constitutes an "otherwise stated" exception to the Applicability of this Surveillance. Therefore, if the Surveillance were not performed within the 24 hour interval (plus the extension allowed by SR 3.0.2), and the unit was in MODE 3, there would be no failure of the SR nor failure to meet the LCO. Therefore, no violation of SR 3.0.4 occurs when changing MODES to enter MODE 3, even with the 24 hour Frequency exceeded, provided the MODE change does not result in entry into MODE 2. Prior to entering MODE 2 (assuming again that the 24 hour Frequency were not met), SR 3.0.4 would require satisfying the SR. 1

JUSTIFICATION FOR DEVIATIONS
ITS 1.0, USE AND APPLICATION

1. Changes are made (additions, deletions, and/or changes) to the ISTS that reflect the plant specific nomenclature, number, reference, system description, analysis, or licensing basis description.

2. The ISTS contains bracketed information and/or values that are generic to all Combustion Engineering vintage plants. The brackets are removed, and the proper plant specific information/value is provided. This is acceptable since the information/value is changed to reflect the current licensing basis.

3. The ISTS definition for DOSE EQUIVALENT I-131 includes a Reviewer's Note. The Reviewer's Note has been deleted. The Note informs the NRC Reviewer what is needed to meet this requirement. The Reviewer's Note is not meant to be retained in the final version of the ITS. St. Lucie Plant (PSL) Unit 1 and Unit 2 are licensed to 10 CFR 50.67.

4. The ISTS definition for DOSE EQUIVALENT XE-133 contains bracketed information with two options for “effective dose conversion factors for air submission.” PSL Unit 1 and Unit 2 are licensed to the effective dose conversion factors for air submersion listed in Table III.1 of EPA Federal Guidance Report No. 12, 1993, "External Exposure to Radionuclides in Air, Water, and Soil" Therefore, this option will be maintained.

5. PSL does not propose to use a PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR) and will not relocate the Pressure and Temperature limits from the Technical Specifications. The current limits will be retained in the ITS. Therefore, the definition of PTLR has not been incorporated into the ITS.

6. PSL ITS 1.3, Example 1.3-8 Reviewer’s Note states “Example 1.3-8 is only applicable to plants that have adopted the Risk Informed Completion Time Program.” PSL Unit 1 has implemented the Risk Informed Completion Time Program as approved in License Amendment No. 247 (ADAMS Accession No. ML19113A099). PSL Unit 2 has implemented the Risk Informed Completion Time Program as approved in License Amendment No. 199 (ADAMS Accession No. ML19113A099). Therefore, the Reviewer’s Note is deleted, and the Example 1.3-8 brackets are deleted.

7. Typographical error is corrected. The proper section for Surveillance Requirement (SR) Applicability is Section 3.0.

8. The ISTS definition of SHUTDOWN MARGIN deletes “full length” as related to control element assemblies (CEAs). Part length CEAs are not used at PSL Unit 1 and PSL Unit 2.

Specific No Significant Hazards Considerations (NSHCs)

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 1.0, USE AND APPLICATION

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L01

Florida Power & Light Company (FPL) is converting St. Lucie Plant Unit 1 and Unit 2 to the Improved Technical Specifications (ITS) as outlined in NUREG-1432, Rev. 5, "Standard Technical Specifications, Combustion Engineering Plants." The proposed change involves making the Current Technical Specifications (CTS) less restrictive. Below is the description of this less restrictive change and the determination of no significant hazards considerations for conversion to NUREG-1432.

The CTS Section 1.0 definition of CHANNEL FUNCTIONAL TEST requires the use of a simulated signal when performing the test. ITS Section 1.1 allows the use of a simulated or actual signal when performing the test. This changes the CTS by allowing the use of unplanned actuations to perform the Surveillance based on the collection of sufficient information to satisfy the surveillance test requirements.

FPL has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change adds an allowance that an actual as well as a simulated signal can be credited during the CHANNEL FUNCTIONAL TEST. This change allows taking credit for unplanned actuations if sufficient information is collected to satisfy the surveillance test requirements. This change is acceptable because the channel itself cannot discriminate between an "actual" or "simulated" signal, and the proposed requirement does not change the technical content or validity of the test. This change will not affect the probability of an accident. The source of the signal sent to components during a Surveillance is not assumed to be an initiator of any analyzed event. The consequence of an accident is not affected by this change. The results of the testing, and, therefore, the likelihood of discovering an inoperable component, are unaffected. As a result, the assurance that equipment will be available to mitigate the consequences of an accident is unaffected.

   Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change adds an allowance that an actual as well as a simulated signal can be credited during the CHANNEL FUNCTIONAL TEST. This change will not physically alter the plant (no new or different type of equipment will be installed). The change does not require any new or revised operator actions.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change adds an allowance that an actual as well as a simulated signal can be credited during the CHANNEL FUNCTIONAL TEST. The margin of safety is not affected by this change. This change allows taking credit for unplanned actuations if sufficient information is collected to satisfy the surveillance test requirements. This change is acceptable because the channel itself cannot discriminate between an "actual" or "simulated" signal. As a result, the proposed requirement does not change the technical content or validity of the test.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FPL concludes that the proposed change does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
ITS 1.0, USE AND APPLICATION

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L02

Florida Power & Light Company (FPL) is converting St. Lucie Plant Unit 1 and Unit 2 to the Improved Technical Specifications (ITS) as outlined in NUREG-1432, Rev. 5, "Standard Technical Specifications, Combustion Engineering Plants." The proposed change involves making the Current Technical Specifications (CTS) less restrictive. Below is the description of this less restrictive change and the determination of no significant hazards considerations for conversion to NUREG-1432.

The change revises the CTS definitions for Engineered Safety Feature (ESF) Response Time and Reactor Protection System (RPS) response time that are referenced in Surveillance Requirements (SRs), hereafter referred to as response time testing (RTT). The definitions are revised to add the statement "or the components have been evaluated in accordance with an NRC approved methodology" at the end of the last sentence in the definitions. The changes are based on Technical Specifications Task Force (TSTF) traveler TSTF-569, Revision 2, "Revise Response Time Testing Definition," dated June 25, 2019 (ADAMS Accession No. ML19176A034). The NRC issued a final safety evaluation (SE) approving TSTF-569, Revision 2, on August 14, 2019 (ADAMS Accession No. ML19176A191). FPL is not proposing any variations from the TS changes described in TSTF-569, Revision 2, or the applicable parts of the NRC SE of TSTF-569, Revision 2.

FPL has evaluated whether or not a significant hazards consideration is involved with the proposed generic change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   The proposed change revises the CTS Definition of RPS and ESF instrumentation response time to permit FPL to evaluate using an NRC-approved methodology and apply a bounding response time for some components in lieu of measurement. The requirement for the instrumentation to actuate within the response time assumed in the accident analysis is unaffected.

   The response time associated with the RPS and ESF instrumentation is not an initiator of any accident. Therefore, the proposed change has no significant effect on the probability of any accident previously evaluated.

   The affected RPS and ESF instrumentation are assumed to actuate their respective components within the required response time to mitigate accidents previously evaluated. Revising the TS definition for RPS and ESF instrumentation response times to allow an NRC-approved methodology for verifying response time for some components does not alter the surveillance requirements that verify the RPS and ESF instrumentation response times are within the required limits. As such, the TS will continue to assure that the RPS and ESF instrumentation actuate their associated components within the specified response time to accomplish the required safety functions assumed in the accident analyses.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change revises the CTS Definition of RPS and ESF instrumentation response time to permit FPL to evaluate using an NRC-approved methodology and apply a bounding response time for some components in lieu of measurement. The proposed change does not involve a physical alteration of the plant (i.e., no new or different type of equipment will be installed). The proposed change does not alter any assumptions made in the safety analyses. The proposed change does not alter the limiting conditions for operation for the RPS or ESF instrumentation, nor does it change the Surveillance Requirement to verify the RPS and ESF instrumentation response times are within the required limits. As such, the proposed change does not alter the operability requirements for the RPS and ESF instrumentation, and therefore, does not introduce any new failure modes.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change revises the CTS Definition of RPS and ESF instrumentation response time to permit the licensee to evaluate using an NRC-approved methodology and apply a bounding response time for some components in lieu of measurement. The proposed change has no effect on the required RPS and ESF instrumentation response times or setpoints assumed in the safety analyses and the TS requirements to verify those response times and setpoints. The proposed change does not alter any Safety Limits or analytical limits in the safety analysis. The proposed change does not alter the TS operability requirements for the RP] and ESF instrumentation. The RPS and ESF instrumentation actuation of the required systems and components at the required setpoints and within the specified response times will continue to accomplish the design basis safety functions of the associated systems and components in the same manner as before. As such, the RPS and ESF instrumentation will continue to perform the required safety functions as assumed in the safety analyses for all previously evaluated accidents.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FPL concludes that the proposed change does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L03

Florida Power & Light Company (FPL) is converting St. Lucie Plant Unit 1 and Unit 2 to the Improved Technical Specifications (ITS) as outlined in NUREG-1432, Rev. 5, "Standard Technical Specifications, Combustion Engineering Plants." The proposed change involves making the Current Technical Specifications (CTS) less restrictive. Below is the description of this less restrictive change and the determination of no significant hazards considerations for conversion to NUREG-1432.

CTS Section 1.0 definition of SHUTDOWN MARGIN (SDM) requires that the calculation assume that all CEAs (shutdown and regulating) are fully inserted except for the single rod assembly of highest reactivity worth which is assumed to be fully withdrawn. The ITS definition allows that with all CEAs verified fully inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation. This change revises the Technical Specifications to include the allowance that with all CEAs verified inserted by two independent means, it is not necessary to account for a stuck CEA in determination of SDM. PSL Unit 1 and Unit 2 design include two independent CEA position indicating systems. The independent systems are the pulse counting CEA position indication system and the reed switch CEA position indication system.

This change is acceptable because the CTS definition was developed considering a worst case condition to assure sufficient SDM is available. However, if all rods can be verified to be fully inserted, the worst case condition is not applicable and the requirement to assume a rod is stuck in the fully withdrawn position is overly conservative and unnecessary to assure safe plant operation. The provision of the ITS exception that requires the rod positions to be verified by two independent means provides adequate assurance that all rods are fully inserted and that SDM may be calculated without the conservative assumption of a fully withdrawn rod. PSL Unit 1 and Unit 2 design provide two independent systems to verify all CEAs are fully inserted. This change is designated as less restrictive because it allows for an exception to the CTS requirements.

FPL has evaluated whether or not a significant hazards consideration is involved with the proposed change by focusing on the three standards set forth in 10 CFR 50.92, "Issuance of Amendment," as discussed below:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Response: No.

   This change revises the Technical Specifications to include the allowance that with all CEAs verified inserted by two independent means, it is not necessary to account for a stuck CEA in the SDM calculation. The proposed change adds an exception to the SDM definition. This change allows the SDM to be determined without assuming a rod is fully withdrawn when all CEAs are verified by two independent means to be fully inserted. The proposed change continues to assure adequate SDM is maintained consistent with the actual plant conditions. PSL Unit 1 and Unit 2 design provide two independent systems to verify all CEAs inserted by two independent means. The proposed change will not affect the probability of an accident. The proposed change does not affect any accident initiators. The consequence of an accident is not affected by the proposed change because adequate SDM is maintained. The assumptions of accidents previously evaluated remain unaffected. Therefore, this change will not involve a significant increase in the probability or consequence of an accident previously evaluated.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

   Response: No.

   The proposed change provides an exception to the SDM definition requirement to assume one CEA fully withdrawn. This change will not physically alter the plant (no new or different type of equipment will be installed). PSL Unit 1 and Unit 2 design provide two independent systems to verify all CEAs inserted by two independent means.

   Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change involve a significant reduction in a margin of safety?

   Response: No.

   The proposed change provides an exception to the SDM definition requirement to assume one rod fully withdrawn when all rods are adequately verified to be fully inserted. PSL Unit 1 and Unit 2 design provide two independent systems to verify all CEAs inserted by two independent means. The proposed change continues to assure sufficient SDM is maintained consistent with the assumptions of the accident analyses. The proposed change does not affect the assumptions of any accident analysis and does not adversely affect the safe operation of the plant. As such, the margin of safety is not affected by this change.

   Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, FPL concludes that the proposed change does not involve a significant hazards consideration under the standards set forth in 10 CFR 50.92(c), and, accordingly, a finding of "no significant hazards consideration" is justified.