VOLUME 3

CNP UNITS 1 AND 2
IMPROVED TECHNICAL
SPECIFICATIONS CONVERSION

ITS CHAPTER 1.0
USE AND APPLICATION

Revision 0

LIST OF ATTACHMENTS

ATTACHMENT 1

ITS Chapter 1.0, Use and Application

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

ITS

A.1

1.0 USE AND APPLICATION

A.1

1 1.0 DEFINITIONS

1.1 DEFINED TERMS - NOTE:

A.1

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

THERMAL POWER

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

RATED THERMAL POWER (RTP)

1.3 RATED THERMAL POWER RTP shall be a total reactor core heat transfer rate to the reactor coolant of 3304 MWt.

A.1

OPERATIONAL MODE

1.4 An OPERATIONAL MODE shall correspond to any one inclusive combination of core reactivity condition, power level, and average reactor coolant temperature specified in Table 1.1 -1 with fuel in the reactor vessel. INSERT 1 A.2 moved from Table 1.1

A.1

ACTION S

1.5 ACTION S shall be those additional requirements specified as corollary statements to each principle specification and shall be part of the specifications. INSERT 2

A.1

OPERABLE - OPERABILITY

safety A.3

1.6 A system, subsystem, train, component, or device shall be OPERABLE or have OPERABILITY when it is capable of performing its specified safety function(s). Implicit in this definition shall be the assumption that and when all necessary attendant instrumentation, controls, normal and or emergency electrical power sources, cooling and or 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).

A.1

or A.4

specified safety A.3

A.2

INSERT 1

, and reactor vessel head closure bolt tensioning

A.1

INSERT 2

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

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ITS Chapter 1.0

ITS

A.1

DEFINITIONS

REPORTABLE EVENT

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

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

A.5

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

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

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

See ITS 3.6.1

1.8.2 All equipment hatches are closed and sealed.

See ITS 3.6.1

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

See ITS 3.6.2

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

See ITS 3.6.1

1.1 CHANNEL CALIBRATION

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

that | in | means of | , | INSERT 3 | A.6 | A.1 | A.1

CHANNEL CHECK

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

, | , | to | A.1 | A.1

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A.6

INSERT 3

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

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ITS

A.1

DEFINITIONS

1.1

CHANNEL FUNCTIONAL TEST

OPERATIONAL (COT) COT

1.11 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.

or actual INSERT 4

A.1 A.7 L.1

CORE ALTERATION

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

INSERT 5 S

L.2 A.8 A.1

SHUTDOWN MARGIN

(SDM) SDM subcritical control (RCCAs) : a.

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

RCCA , INSERT 6

A.1 A.9

IDENTIFIED LEAKAGE

LEAKAGE a.

1.14 IDENTIFIED LEAKAGE shall be:

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

that from is collection systems or s INSERT 7

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) (SG)

3. c. Reactor coolant system leakage through a steam generator to the secondary system.

;

A.10 A.1 A.10 A.1 A.10

UNIDENTIFIED LEAKAGE

b. All INSERT 8

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

; and

A.1

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A.7

INSERT 4

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

L.2

INSERT 5

fuel, sources, or reactivity control components,

A.9

INSERT 6

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

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

A.10

INSERT 7

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

A.10

INSERT 8

(except RCP seal water injection or leakoff) that

ITS Chapter 1.0

ITS

A.1

1.1

DEFINITIONS

c.

PRESSURE BOUNDARY LEAKAGE

A.10

SG

A.1

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

, n RCS

CONTROLLED LEAKAGE

A.10

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

QUADRANT POWER TILT RATIO (QPTR)

A.1

QPTR

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

See ITS 3.2.4

DOSE EQUIVALENT I-131

microcuries

A.1

that

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

A.1

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

STAGGERED TEST BASIS

L.4

1.20 A STAGGERED TEST BASIS shall consist of:

INSERT 9

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

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

A.11

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L.4 INSERT 8a

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

A.11 INSERT 9

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

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ITS Chapter 1.0

A.1

ITS

DEFINITIONS

FREQUENCY NOTATION

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

A.12

(RTS)

REACTOR TRIP SYSTEM RESPONSE TIME

RTS   that

1.1 1.22 The REACTOR TRIP SYSTEM RESPONSE TIME shall be the time interval from when the monitored parameter exceeds its trip setpoint at the channel sensor until loss of stationary gripper coil voltage.

INSERT 10

A.1 A.13 L.3

(ESF)

ENGINEERED SAFETY FEATURE RESPONSE TIME

ESF

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

,

INSERT 11

A.1 A.13 L.3

(AFD)

AXIAL FLUX DIFFERENCE

AFD

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

A.1

PHYSICS TESTS

These tests are: , Initial Tests and Operation,   U

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

.   b.   a.   ;   c.   ;   Nuclear Regulatory

A.1

$\bar{E}$ - AVERAGE DISINTEGRATION ENERGY

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

>

A.1

SOURCE CHECK

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

A.5

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<u>INSERT 10</u>

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC. (A.13) (L.3)

<u>INSERT 11</u>

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC. (A.13) (L.3)

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ITS

A.1

DEFINITIONS

PROCESS CONTROL PROGRAM (PCP)

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

See CTS 6.0

1.29 Deleted.

A.1

OFFSITE DOSE CALCULATION MANUAL (ODCM)

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

See ITS 5.5

GASEOUS RADWASTE TREATMENT SYSTEM

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

A.5

VENTILATION EXHAUST TREATMENT SYSTEM

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

A.5

PURGE-PURGING

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

A.5

VENTING

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

A.5

A.1

ITS

1.0 DEFINITIONS

MEMBER(S) OF THE PUBLIC

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

SITE BOUNDARY

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

UNRESTRICTED AREA

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

ALLOWABLE POWER LEVEL (APL)

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

CORE OPERATING LIMITS REPORT (COLR)

cycle specific parameter

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

5.6.5 parameter (TADOT) INSERT 12 A.14

TRIP ACTUATING DEVICE OPERATIONAL TEST

TADOT

1.40 A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock, and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required setpoint within the required accuracy. A.1

the TADOT so

necessary INSERT 13 A.14

INSERT 14 A.15

A.14

INSERT 12

all devices in the channel required for trip actuating device OPERABILITY

A.14

INSERT 13

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

A.15

INSERT 14

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

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ITS

A.1

Table 1.1-1

TABLE 1.1

OPERATIONAL MODES

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

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

(a) * Excluding decay heat.

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

closure bolts less than fully tensioned

One or more

A.2

Moved to definition of MODE, page 1 of 35

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

A.2

ITS Chapter 1.0

ITS

A.1

1.0 DEFINITIONS

TABLE 1.2

FREQUENCY NOTATION

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

A.12

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

A.17

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A.1

ITS

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

3/4.1.1 BORATION CONTROL

SHUTDOWN MARGIN - TAVG GREATER THAN 200°F

LIMITING CONDITION FOR OPERATION

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

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

ACTION:

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

SURVEILLANCE REQUIREMENTS

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

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

b. When in MODE 1 or MODE 2 with Keff greater than or equal to 1.0, at least once per 12 hours by verifying that control bank withdrawal is within the limits of Specification 3.1.3.5.

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 control rod position is within the limits of Specification 3.1.3.5. — See ITS 3.1.6

d. Prior to initial operation above 5% RATED THERMAL POWER after each fuel loading, by consideration of the factors of e below, with the control banks at the maximum insertion limit of Specification 3.1.3.5. — See ITS 3.1.1

*See Special Test Exception 3.10.1. — See ITS 3.1.1

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ITS

A.1

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

SHUTDOWN MARGIN - TAVG LESS THAN OR EQUAL TO 200°F

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODE 5.

ACTION:

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

SURVEILLANCE REQUIREMENTS

4.1.1.2 *The SHUTDOWN MARGIN shall be determined to be greater than or equal to 1.0% Delta k/k:* See ITS 3.1.1

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

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

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation, See ITS 3.1.1
5. Xenon concentration
6. Samarium concentration, and
7. Boron penalty.

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ITS Chapter 1.0

A.1

ITS

1.0 USE AND APPLICATION

A.1

1

1.0 DEFINITIONS

1.1

DEFINED TERMS

NOTE:

A.1

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

and Bases

THERMAL POWER

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

RATED THERMAL POWER (RTP)

RTP

A.1

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

OPERATIONAL MODE

A.1

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

, INSERT 1 A.1 -1 with fuel in the reactor vessel moved from Table 1.1 A.2

ACTION S

A.1

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

INSERT 2

OPERABLE - OPERABILITY

, safety A.3

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

and

and when

A.1

, , and specified safety or

A.4

A.3

A.2

INSERT 1

, and reactor vessel head closure bolt tensioning

A.1

INSERT 2

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

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ITS Chapter 1.0

ITS

A.1

DEFINITIONS

REPORTABLE EVENT

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

CONTAINMENT INTEGRITY

1.8 CONTAINMENT INTEGRITY shall exist when:

A.5

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

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

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

See ITS 3.6.1

1.8.2 All equipment hatches are closed and sealed,

See ITS 3.6.1

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

See ITS 3.6.2

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

See ITS 3.6.1

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

See ITS 3.6.1

1.1 CHANNEL CALIBRATION

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

that | in | INSERT 3 | means of | , | A.1 | A.6 | A.1

CHANNEL CHECK

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

, | , | to | A.1 | A.1

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A.6

INSERT 3

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

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ITS Chapter 1.0

ITS

A.1

DEFINITIONS

1.1

CHANNEL FUNCTIONAL TEST

OPERATIONAL (COT) COT

1.11 A CHANNEL FUNCTIONAL TEST shall be:

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

or actual

L.1 A.1 INSERT 4 A.7

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

A.18

CORE ALTERATION

INSERT 5 L.2

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

A.8 S A.1

SHUTDOWN MARGIN

(SDM) SDM control (RCCAs)

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

: a. A.1 RCCA , INSERT 6

IDENTIFIED LEAKAGE

A.9 LEAKAGE a. A.10

1.14 IDENTIFIED LEAKAGE shall be:

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

that from S is INSERT 7 collection systems or A.1 A.10

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

(RCS) (SG) A.1

3 c. Reactor coolant system leakage through a steam generator to the secondary system.

;

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A.7 INSERT 4

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

L.2 INSERT 5

fuel, sources, or reactivity control components,

A.9 INSERT 6

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

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

A.10 INSERT 7

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

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ITS Chapter 1.0

A.1

ITS

DEFINITIONS

1.1 b. UNIDENTIFIED LEAKAGE A.10

All INSERT 8

1.15 UNIDENTIFIED LEAKAGE shall be all leakage which is not IDENTIFIED LEAKAGE or CONTROLLED LEAKAGE. A.1

; and

c. PRESSURE BOUNDARY LEAKAGE A.10

SG

1.16 PRESSURE BOUNDARY LEAKAGE shall be leakage (except steam generator tube leakage) through a non-isolable fault in a Reactor Coolant System component body, pipe wall or vessel wall. A.1

, n RCS

CONTROLLED LEAKAGE

1.17 CONTROLLED LEAKAGE shall be that seal water flow supplied to the reactor coolant pump seals. A.10

(QPTR)

QUADRANT POWER TILT RATIO A.1

QPTR

1.18 QUADRANT POWER TILT RATIO shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater. With one excore detector inoperable, the remaining three detectors shall be used for computing the average. See ITS 3.2.4

DOSE EQUIVALENT I-131

microcuries A.1

that

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

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

L.4

A.10 INSERT 8

(except RCP seal water injection or leakoff) that

L.4 INSERT 8a

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

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A.1

ITS

DEFINITIONS

1.1

STAGGERED TEST BASIS

1.20 A STAGGERED TEST BASIS shall consist of: INSERT 9

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

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

A.11

FREQUENCY NOTATION

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

A.12

REACTOR TRIP SYSTEM RESPONSE TIME (RTS)

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

A.13

L.3

ENGINEERED SAFETY FEATURE RESPONSE TIME (ESF)

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

A.1

A.13

L.3

AXIAL FLUX DIFFERENCE (AFD)

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

A.1

A.11

INSERT 9

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

INSERT 10

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC. A.13 L.3

INSERT 11

The response time may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured. In lieu of measurement, response time may be verified for selected components provided that the components and methodology for verification have been previously reviewed and approved by the NRC. A.13 L.3

ITS

A.1

DEFINITIONS

1.1 PHYSICS TESTS

These tests are: , Initial Tests and Operation, U

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

. a. b. c. ; ; Nuclear Regulatory

A.1

E - AVERAGE DISINTEGRATION ENERGY

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

>

A.1

SOURCE CHECK

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

A.5

PROCESS CONTROL PROGRAM (PCP)

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

See CTS 6.0

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A.1

ITS

DEFINITIONS

1.29 Deleted.

A.1

OFFSITE DOSE CALCULATION MANUAL (ODCM)

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

See ITS 5.5

GASEOUS RADWASTE TREATMENT SYSTEM

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

A.5

VENTILATION EXHAUST TREATMENT SYSTEM

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

A.5

PURGE-PURGING

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

A.5

VENTING

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

A.5

ITS Chapter 1.0

ITS

A.1

1.0 DEFINITIONS

MEMBER(S) OF THE PUBLIC

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

SITE BOUNDARY

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

UNRESTRICTED AREA

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

ALLOWABLE POWER LEVEL (APL)

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

CORE OPERATING LIMITS REPORT (COLR) — cycle specific parameter

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

5.6.5 parameter

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

TADOT

1.40 A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock, and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required setpoint within the required accuracy. A.1

the

TADOT

so

necessary INSERT 13 A.14

INSERT 14 A.15

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A.14

INSERT 12

all devices in the channel required for trip actuating device OPERABILITY

A.14

INSERT 13

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

A.15

INSERT 14

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

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A.1

ITS

Table 1.1-1

TABLE 1.1

OPERATIONAL MODES

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

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

(a) * Excluding decay heat.

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

closure bolts less than fully tensioned

One or more

Moved to definition of MODE, page 18 of 35

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

A.1

ITS

1.0 DEFINITIONS

TABLE 1.2

FREQUENCY NOTATION

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

A.12

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

A.17

ITS

A.1

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

3/4.1.1 BORATION CONTROL

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

LIMITING CONDITION FOR OPERATION

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

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

ACTION:

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

SURVEILLANCE REQUIREMENTS

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

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

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

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

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

*See Special Test Exception 3.10.1. See ITS 3.1.1

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ITS

A.1

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

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

LIMITING CONDITION FOR OPERATION

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

APPLICABILITY: MODE 5.

ACTION:

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

SURVEILLANCE REQUIREMENTS

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

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

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

1. Reactor coolant system boron concentration,
2. Control rod position,
3. Reactor coolant system average temperature,
4. Fuel burnup based on gross thermal energy generation, See ITS 3.1.1
5. Xenon concentration,
6. Samarium concentration, and
7. Boron penalty.

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DISCUSSION OF CHANGES
ITS CHAPTER 1.0, USE AND APPLICATION

ADMINISTRATIVE CHANGES

A.1 In the conversion of the CNP 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-1431, Rev. 2, "Standard Technical Specifications-Westinghouse Plants" (ISTS).

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

A.2 CTS Section 1.0 and Table 1.1, "OPERATIONAL MODES," provide a description of the MODES. ITS Section 1.1 and Table 1.1-1, "MODES," changes the CTS MODE definitions in several ways:

- The phrase "Reactor vessel head unbolted or removed" in CTS Table 1.1 Note ** is replaced with "One or more reactor vessel head closure bolts less than fully tensioned" in ITS Table 1.1-1 Note c.

  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. Since “reactor vessel head unbolted” is already specified in the CTS Note, including “or removed” is unnecessary.

- The CTS Table 1.1 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.

- 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.

DISCUSSION OF CHANGES
ITS CHAPTER 1.0, USE AND APPLICATION

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.

A.3 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 is 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.

A.4 The CTS Section 1.0 definition of OPERABLE-OPERABILITY requires that all necessary normal and emergency electrical power sources be available for the system, subsystem, train, component, or device to be OPERABLE. The ITS Section 1.1 definition of OPERABLE-OPERABILITY will replace the phrase "normal and emergency electrical power sources" with "normal or emergency electrical power sources." 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 clearly addressed in CTS 3.0.5. 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. This effectively changes the current "and" to an "or." The existing requirements (CTS 3.0.5) are incorporated into ITS 3.8.1 ACTIONS for when a normal (offsite) or emergency (diesel generator) power source is inoperable. Therefore, the ITS definition now uses the word "or" instead of the current word "and." In ITS 3.8.1, new times are provided to perform the determination of OPERABILITY of the redundant systems, et. al. This change is discussed in the Discussion of Changes (DOCs) for ITS 3.8.1. This change is designated administrative since the ITS definition is effectively the same as the CTS definition.

A.5 CTS Section 1.0 includes the following definitions:

- ALLOWABLE POWER LEVEL
- CONTAINMENT INTEGRITY
- GASEOUS RADWASTE TREATMENT SYSTEM
- MEMBER(S) OF THE PUBLIC
- PURGE - PURGING
- REPORTABLE EVENT
- SITE BOUNDARY
- SOURCE CHECK
- UNRESTRICTED AREA
- VENTILATION EXHAUST TREATMENT SYSTEM
- VENTING

The ITS does not use this terminology and ITS Section 1.1 does not contain these definitions.

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.

A.6 The CTS 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. 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." 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." The ITS states, "The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY."

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.

- The CTS states that the CHANNEL CALIBRATION "shall include the CHANNEL FUNCTIONAL TEST." The ITS does not include this statement.

  This change is acceptable because the eliminated CTS statement does not add any requirements. In both the CTS and the ITS, performance of a single test that fully meets the requirements of other tests can be credited for satisfying the other tests.

- The ITS adds the statement, "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 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.

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

A.7 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 renames the CTS definition to CHANNEL OPERATIONAL TEST (COT), and 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 COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy. The COT may be performed by means of any series of sequential, overlapping, or total channel steps." The addition of use of an actual signal is discussed in DOC L.1. This changes the CTS by stating that the COT shall include adjustments, as necessary, of the devices in the channel so that the setpoints are within the required range and accuracy, changes the example list of devices contained in the definition, and states that the test may be performed by means of any series of sequential, overlapping, or total channel steps.

- The CTS definition states that the CHANNEL FUNCTIONAL TEST shall verify that the channel is OPERABLE "including alarm and/or trip functions." The ITS states that the COT 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 that the channel be verified to be OPERABLE. 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 safety function.

- The ITS states "The COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy."

  This change is acceptable because it clarifies that adjustments performed during a COT do not invalidate the test. This is consistent with the current implementation of the CHANNEL FUNCTIONAL TEST and does not result in a technical change to the Technical Specifications.

- The ITS states "The COT 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. This is consistent with the current implementation of the CHANNEL FUNCTIONAL TEST and does not result in a technical change to the Technical Specifications.

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

A.8 CTS Section 1.0 provides a definition of CORE ALTERATION. The ITS Section 1.1 definition of CORE ALTERATION revises the CTS definition to eliminate two redundant phrases.

DISCUSSION OF CHANGES
ITS CHAPTER 1.0, USE AND APPLICATION

The CTS definition includes "movement or manipulation" of any component within the reactor pressure vessel. The ITS definition of CORE ALTERATION will only include "movement" of components, not "manipulation."

This change is acceptable because the eliminated phrase adds no value. In the context of this definition, any manipulation of a component will involve its movement, so stating "movement or manipulation" is redundant and potentially confusing.

- The CTS definition does not preclude completion of movement of a component to a "safe conservative" position. The ITS definition specifies only a "safe" position.

  This change is acceptable because the eliminated phrase adds no value. The Technical Specifications provide no basis for determining whether a movement is conservative, so it is assumed that the word "conservative" is used in the definition to mean "safe." Therefore, stating "safe conservative" is repetitious and potentially confusing.

  These changes are designated administrative because they represent the elimination of redundant words and phrases without changing the intent of the definition.

A.9 CTS Section 1.0 provides a definition of SHUTDOWN MARGIN (SDM). CTS 4.1.1.1.1.a and CTS 4.1.1.2.a provide an exception to the SDM definition, such that if a control rod is inoperable due to being immovable or untrippable, the SDM is modified (increased) by the worth of the inoperable rod. The ITS Section 1.1 definition of SDM contains two differences from the CTS definition.

- The CTS definition is changed to indicate that the worth of any Rod Control Cluster Assemblies (RCCAs) which are not capable of being fully inserted must be accounted for in the determination of the SDM. Currently, this requirement is not in the CTS.

  This change is acceptable because it is consistent with the existing SDM requirements in CTS 3.1.1.1 and 3.1.1.2.

- The CTS definition is clarified to include a description of the reactor fuel and moderator temperature conditions (i.e., nominal zero power level) at which the SDM is calculated when in MODE 1 or 2.

  This change is acceptable because including this information is not a technical change. SDM calculations are currently performed for nominal zero power conditions.

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

A.10 CTS Section 1.0 provides definitions for CONTROLLED LEAKAGE, IDENTIFIED LEAKAGE, PRESSURE BOUNDARY LEAKAGE, and UNIDENTIFIED

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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. The CTS term CONTROLLED LEAKAGE, which is the seal water flow supplied to the reactor coolant pump seals, is no longer considered leakage and has its own specification titled "Seal Injection Flow" as ITS 3.5.5. Since seal injection flow is no longer considered leakage, it appears as an exception in the CTS definitions of IDENTIFIED LEAKAGE and UNIDENTIFIED LEAKAGE. As a result, the ITS will not contain a defined term, "CONTROLLED LEAKAGE."

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.

A.11 The CTS Section 1.0 definition of STAGGERED TEST BASIS states, "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, b. The testing of one system, subsystem, train or other designated component at the beginning of each subinterval." The ITS Section 1.1 definition states, "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." This changes the CTS to specify the frequency of a Surveillance on one system, subsystem, train, or other designated component in the Frequency column of the ITS instead of specifying the frequency in which all systems, subsystems, trains, or other designated components must be tested.

This change is acceptable because the testing frequency of components on a STAGGERED TEST BASIS is not changed. Unlike the CTS definition, the ITS definition allows the Surveillance interval for one subsystem to be specified in the Frequency column of the applicable Surveillance Requirements, independent of the number of subsystems. As an example, consider a three channel system tested on a STAGGERED TEST BASIS. The CTS would specify testing every three months on a STAGGERED TEST BASIS, which results in one channel being tested each month (three equal subintervals). Under the ITS definition, the Surveillance Frequency would be monthly on a STAGGERED TEST BASIS and, one channel would also be tested each month. In both the CTS and ITS definitions, all channels are tested every three months. Each test under the CTS definition would be performed at the beginning of the subinterval. Under the ITS definition, each Surveillance Frequency starts at the beginning of the CTS definition subinterval. Thus, there are no net changes in the testing interval. This change represents an editorial preference in the ITS. This change is designated as administrative as no technical changes are made to the Technical Specifications.

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A.12 CTS Section 1.0 provides a definition of FREQUENCY NOTATION and includes CTS Table 1.2, which lists these notations. The ITS will not contain this information in Section 1.1, but will state the requirements in each Surveillance.

This change is acceptable because each ITS Surveillance Requirement (SR) provides the specific frequency without relying on a notation (e.g., "31 days" versus "M"). Providing the specific frequencies in the Surveillance Requirements eliminates the need for the FREQUENCY NOTATION definition and CTS Table 1.2. Any Surveillance Frequencies altered by the elimination of the definition and table will be addressed in a DOC for the affected section. This change is designated as administrative because it does not change any SR frequencies.

A.13 CTS Section 1.0 provides definitions of ENGINEERED SAFETY FEATURE RESPONSE TIME and REACTOR TRIP SYSTEM RESPONSE TIME. ITS Section 1.1 modifies the definitions to more fully describe how the tests are performed. The ITS states that the "response time test may be measured by means of any series of sequential, overlapping, or total steps so that the entire response time is measured." Currently, the CTS does not describe this manner of testing.

This change is acceptable because the ITS definitions are consistent with current plant practices. Also, the definitions are consistent with the guidance provided in IEEE 338-1977, Section 6.3.4, "Response Time Verification Tests," although CNP is not committed to this standard. The results of the test are unaffected by this allowance. This change is designated as administrative as it does not result in a technical change to the response time tests.

A.14 The CTS defines TRIP ACTUATING DEVICE OPERATIONAL TEST as "A TRIP ACTUATING DEVICE OPERATIONAL TEST shall consist of operating the Trip Actuating Device and verifying OPERABILITY of alarm, interlock, and/or trip functions. The TRIP ACTUATING DEVICE OPERATIONAL TEST shall include adjustment, as necessary, of the Trip Actuating Device such that it actuates at the required setpoint within the required accuracy." ITS defines TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) as "A TADOT shall consist of operating the trip actuating device and verifying OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY. The TADOT shall include adjustment, as necessary, of the trip actuating device such that it actuates at the required setpoint within the required accuracy. The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps." This results in a number of changes to the CTS.

- The CTS definition states that the TRIP ACTUATING DEVICE OPERATIONAL TEST shall "verify OPERABILITY of alarm, interlock, and/or trip functions." The ITS states that the TADOT shall "verify the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY."

  This change is acceptable because the statements are equivalent in that both require that all needed portions of the channel to be tested. The ITS definition reflects the CTS understanding that the TRIP ACTUATING

DEVICE OPERATIONAL TEST includes only those portions of the channel needed to perform the safety function.

- The ITS states, "The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps." Currently, the CTS does not describe this manner of testing.

  This change is acceptable because it states current Industry practice. This is consistent with the current implementation of the TADOT.

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

A.15 ITS Section 1.1 provides definitions of ACTUATION LOGIC TEST, MASTER RELAY TEST, and SLAVE RELAY TEST. These terms are used as defined terms in the ITS but do not appear in the CTS.

This change is acceptable because these changes do not impose any new requirements or alter existing requirements. Any technical changes due to the addition of these terms and definitions will be addressed in the DOCs for the sections of the Technical Specifications in which the terms are used. These changes are designated as administrative as they add defined terms which involve no technical change to the Technical Specifications.

A.16 CTS Table 1.1, OPERATIONAL MODES, is revised. The corresponding table in ITS Section 1.1 is Table 1.1-1, MODES. The changes to the CTS are:

- The CTS Table 1.1 minimum average reactor coolant temperature for MODES 1 and 2 is changed from ≥ 350°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 350°F minimum temperature does not provide any useful information in ITS Table 1.1-1, and is deleted from the CTS.

- The CTS Table 1.1 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.

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- The CTS Table 1.1 % 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.

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

A.17 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.

A.18 Unit 2 CTS Section 1.0 includes a CHANNEL FUNCTIONAL TEST definition for bistable channels. The definition of CHANNEL FUNCTIONAL TEST for bistable channels requires "the injection of a simulated signal into the channel sensor to verify OPERABILITY including alarm and/or trip functions." However, this CTS definition is essentially duplicative of the TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT) definition. Additionally, this part of the CHANNEL FUNCTIONAL TEST definition is not included in the Unit 1 CTS. ITS Section 1.1 does not include this definition, since the requirements for bistable channels are covered by the TADOT definition.

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This change is acceptable because the TADOT definition adequately covers bistable channels, and does not impose any new requirements or alter any existing requirements. This change is categorized as administrative because the bistable portion of the definition is duplicative of the TADOT definition.

MORE RESTRICTIVE CHANGES

None

RELOCATED SPECIFICATIONS

None

REMOVED DETAIL CHANGES

LA.1 *(Type 1 – Removing Details of System Design and System Description, Including Design Limits)* CTS Table 1.1, "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 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 k_{eff} 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 movement of detail because it moves information from the Technical Specifications to the Bases.

LESS RESTRICTIVE CHANGES

L.1 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 renames the CTS definition to CHANNEL OPERATIONAL TEST (COT) as discussed in DOC A.7. The ITS Section 1.1 COT definition allows the use of an actual or simulated signal when performing the test. This changes the CTS by allowing the use of unplanned actuations to perform the Surveillance if sufficient information is collected to satisfy the surveillance test requirements.

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This change is acceptable because the channel itself cannot discriminate between an "actual" or "simulated" signal and, 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 a Surveillance where only a simulated signal was previously allowed.

L.2 The CTS Section 1.0 definition of CORE ALTERATION applies to the movement or manipulation of any component in the reactor vessel with the vessel head removed and fuel in the vessel. The ITS Section 1.1 definition of CORE ALTERATION will only apply to the movement of fuel, sources, or reactivity control components in the reactor vessel. This changes the CTS by eliminating from the definition of CORE ALTERATION the movement of any components in the reactor vessel that are not fuel, sources, or reactivity control components. The elimination of “or manipulation” from the definition is discussed in DOC A.8.

The defined term CORE ALTERATION in the ITS is used to prevent a core reactivity excursion. Other accidents which can occur during refueling conditions, such as a fuel handling accident or boron dilution accident, are addressed in the ITS by prohibitions on the movement of irradiated fuel or prohibitions on positive reactivity additions. This change is acceptable because the ITS definition of CORE ALTERATION controls the movement of components such as fuel, sources, and reactivity control components that can affect core reactivity. The CTS definition also prohibits the movement of other equipment such as cameras, thimble plugs, and core internals that have little, if any, effect on core reactivity. Therefore, controlling the movement of those items under the definition of CORE ALTERATION is not necessary. This change is designated as less restrictive because the ITS definition applies in fewer circumstances than does the CTS definition.

L.3 The CTS Section 1.0 definitions of ENGINEERED SAFETY FEATURE RESPONSE TIME and REACTOR TRIP SYSTEM RESPONSE TIME require measurement of the response time from the sensor through the actuated equipment. The ITS definitions of ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME and REACTOR TRIP SYSTEM (RTS) RESPONSE TIME are modified to state "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." This changes the CTS by eliminating the requirement to include all components in a response time test.

The purpose of response time testing is to ensure that the system response time, from measurement of a parameter to actuation of the appropriate device, is consistent with the assumptions in the safety analyses. WCAP-13632-P-A, Rev. 2, "Elimination of Pressure Sensor Response Time Testing Requirements," dated January 1996, justified the elimination of the pressure sensor response time testing requirements and allows the response time for selected components to be verified instead of measured. WCAP-14036-P-A, Rev. 1, "Elimination of Periodic Protection Channel Response Time Tests," provides the basis for using allocated signal processing actuation logic response times in the overall verification of the protection system channel response time. This change is acceptable because the cited Topical Reports have demonstrated that modified response time tests will continue to provide assurance that the systems will perform their functions as assumed in the safety analysis. In addition, the Topical Reports have been determined to be applicable to the specific components for which CNP is requesting this allowance.

WCAP-13632-P-A, Rev. 2, contains the technical basis and methodology for eliminating response time testing requirements for pressure and differential pressure sensors identified in the WCAP. The program described in the WCAP utilizes the methods contained in EPRI Report NP-7243, Rev. 1, "Investigation of Response Time Testing Requirements," for justifying elimination of response time testing surveillance requirements for certain pressure and differential pressure sensors. The EPRI report justifies the elimination of response time testing based on Failure Modes and Effects Analyses (FMEA) that show that component degradation that impacts pressure and differential pressure sensor response time can be detected in other routine tests such as calibration tests. The report concludes that response time testing of pressure and differential pressure sensors is redundant to other surveillance requirements such as sensor calibrations. The EPRI report only applied to those specific sensors included in the FMEA.

To address other sensors installed in Westinghouse designed plants, the WCAP contains a similarity analysis to sensors in the EPRI report or a specific FMEA to provide justification for elimination of response time testing requirements for those other sensors. Each pressure and differential pressure sensor that is identified as a candidate for elimination of periodic response time testing requirements is listed in Table 9-1 of the WCAP.

WCAP-13632-P-A, Rev. 2, has been reviewed and evaluated against the actual RTS and Engineered Safety Feature Actuation System (ESFAS) pressure and differential pressure sensors used at CNP to determine applicability. Sensors for the following RTS Functions (as shown in ITS Table 3.3.1-1) have been confirmed to be specifically addressed by WCAP-13632-P-A, and are proposed to have their response times optionally verified in lieu of measurement using the WCAP-13632-P-A methodology:

RTS Function (ITS Table 3.3.1-1)		Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
6.	Overtemperature ΔT (Pressurizer Pressure Input)	1-PT-455, 457, 458 2-PT-455, 457, 458	Foxboro N-E11GM-HIE2-AL
6.	Overtemperature ΔT (Pressurizer Pressure Input)	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
8.a.	Pressurizer Pressure – Low	1-PT-455, 457, 458 2-PT-455, 457, 458	Foxboro N-E11GM-HIE2-AL
8.a.	Pressurizer Pressure – Low	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
8.b.	Pressurizer Pressure – High	1-PT-455, 457, 458 2-PT-455, 457, 458	Foxboro N-E11GM-HIE2-AL

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RTS Function (ITS Table 3.3.1-1)		Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
8.b.	Pressurizer Pressure – High	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
9.	Pressurizer Water Level – High	1-LT-459 2-LT-459	Foxboro N-E13DH-HIH2-AL
9.	Pressurizer Water Level – High	1-LT-460, 461 2-LT-460, 461	Foxboro N-E13DH-HIH2
10.	Reactor Coolant Flow - Low	1-FT-414, 415, 416 1-FT-424, 425, 426 1-FT-434, 435, 436 1-FT-444, 445, 446 2-FT-414, 415, 416 2-FT-424, 425, 426 2-FT-434, 435, 436 2-FT-444, 445, 446	Foxboro E13DH
14.	Steam Generator (SG) Water Level – Low Low	1-LT-517, 519 1-LT-527, 528, 529 1-LT-537, 538, 539 1-LT-547, 548, 549 2-LT-517, 518, 519 2-LT-529 2-LT-538, 539 2-LT-547, 548, 549	Foxboro N-E13DM-H1M2-BL
14.	Steam Generator (SG) Water Level – Low Low	1-LT-518	Foxboro N-E13DM-H1M2-AL
14.	Steam Generator (SG) Water Level – Low Low	2-LT-527, 528 2-LT-537	Foxboro N-E13DM-H1M2

Sensors for the following ESFAS Functions (as shown in ITS Table 3.3.2-1) have been confirmed to be specifically addressed by WCAP-13632-P-A, and are proposed to have their response times optionally verified in lieu of measurement using the WCAP-13632-P-A methodology:

ESFAS Function (ITS Table 3.3.2-1)		Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
1.c.	Safety Injection, Containment Pressure - High	1-PT-934, 935, 936 2-PT-934, 935, 936	Foxboro E11GM-HSAA1
1.d.	Safety Injection, Pressurizer Pressure - Low	1-PT-455, 457 2-PT-455, 457	Foxboro N-E11GM-HIE2-AL
1.d.	Safety Injection, Pressurizer Pressure - Low	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2

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ESFAS Function (ITS Table 3.3.2-1)	Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
1.e.(1) Safety Injection, Steam Line Pressure - Low	1-PT-514, 525, 536, 546 2-PT-514, 525, 536, 546	Foxboro N-E11GM-HIE2-B
2.c. Containment Spray, Containment Pressure – High High	1-PT-934, 935, 936, 937 2-PT-934, 935, 936, 937	Foxboro E11GM-HSAA1
3.a.(3) Containment Isolation, Phase A, SI Input from ESFAS, Containment Pressure - High	1-PT-934, 935, 936 2-PT-934, 935, 936	Foxboro E11GM-HSAA1
3.a.(3) Containment Isolation, Phase A, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-455, 457 2-PT-455, 457	Foxboro N-E11GM-HIE2-AL
3.a.(3) Containment Isolation, Phase A, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
3.a.(3) Containment Isolation, Phase A, SI Input from ESFAS, Steam Line Pressure - Low	1-PT-514, 525, 536, 546 2-PT-514, 525, 536, 546	Foxboro N-E11GM-HIE2-B
3.b.(3) Containment Isolation, Phase B, Containment Pressure – High High	1-PT-934, 935, 936, 937 2-PT-934, 935, 936, 937	Foxboro E11GM-HSAA1
4.c. Steam Line Isolation, Containment Pressure – High High	1-PT-934, 935, 936, 937 2-PT-934, 935, 936, 937	Foxboro E11GM-HSAA1
4.d. Steam Line Isolation, Steam Line Pressure - Low	1-PT-514, 525, 536, 546 2-PT-514, 525, 536, 546	Foxboro N-E11GM-HIE2-B

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ESFAS Function (ITS Table 3.3.2-1)	Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
5.b. Turbine Trip and Feedwater Isolation, Steam Generator (SG) Water Level – High High	1-LT-517, 519 1-LT-527, 528, 529 1-LT-537, 538, 539 1-LT-547, 548, 549 2-LT-517, 518, 519 2-LT-529 2-LT-538, 539 2-LT-547, 548, 549	Foxboro N-E13DM-H1M2-BL
5.b. Turbine Trip and Feedwater Isolation, Steam Generator (SG) Water Level – High High	1-LT-518	Foxboro N-E13DM-H1M2-AL
5.b. Turbine Trip and Feedwater Isolation, Steam Generator (SG) Water Level – High High	2-LT-527, 528 2-LT-537	Foxboro N-E13DM-H1M2
5.c. Turbine Trip and Feedwater Isolation, SI Input from ESFAS, Containment Pressure - High	1-PT-934, 935, 936 2-PT-934, 935, 936	Foxboro E11GM-HSAA1
5.c. Turbine Trip and Feedwater Isolation, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-455, 457 2-PT-455, 457	Foxboro N-E11GM-HIE2-AL
5.c. Turbine Trip and Feedwater Isolation, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
5.c. Turbine Trip and Feedwater Isolation, SI Input from ESFAS, Steam Line Pressure - Low	1-PT-514, 525, 536, 546 2-PT-514, 525, 536, 546	Foxboro N-E11GM-HIE2-B
6.c. Auxiliary Feedwater, Steam Generator (SG) Water Level – Low Low	1-LT-517, 519 1-LT-527, 528, 529 1-LT-537, 538, 539 1-LT-547, 548, 549 2-LT-517, 518, 519 2-LT-529 2-LT-538, 539 2-LT-547, 548, 549	Foxboro N-E13DM-H1M2-BL
6.c. Auxiliary Feedwater, Steam Generator (SG) Water Level – Low Low	1-LT-518	Foxboro N-E13DM-H1M2-AL

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ESFAS Function (ITS Table 3.3.2-1)		Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
6.c.	Auxiliary Feedwater, Steam Generator (SG) Water Level – Low Low	2-LT-527, 528 2-LT-537	Foxboro N-E13DM-H1M2
6.d.	Auxiliary Feedwater, SI Input from ESFAS, Containment Pressure - High	1-PT-934, 935, 936 2-PT-934, 935, 936	Foxboro E11GM-HSAA1
6.d.	Auxiliary Feedwater, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-455, 457 2-PT-455, 457	Foxboro N-E11GM-HIE2-AL
6.d.	Auxiliary Feedwater, SI Input from ESFAS, Pressurizer Pressure - Low	1-PT-456 2-PT-456	Foxboro N-E11GM-HIE2
6.d.	Auxiliary Feedwater, SI Input from ESFAS, Steam Line Pressure - Low	1-PT-514, 525, 536, 546 2-PT-514, 525, 536, 546	Foxboro N-E11GM-HIE2-B
7.c.	Containment Air Recirculation/Hydrogen Skimmer (CEQ) System, Containment Pressure - High	1-PT-934, 935, 936 2-PT-934, 935, 936	Foxboro E11GM-HSAA1

The response time to be allocated in place of response times obtained through actual measurement during the period of verification may be obtained according to the methodology described in WCAP-13632-P-A, Rev. 2. As described in the Bases for ITS SR 3.3.1.19 (RTS RESPONSE TIME Surveillance) and ITS SR 3.3.2.13 (ESFAS RESPONSE TIME Surveillance), these verified response times may be chosen from historical records based on acceptable response time tests (hydraulic, noise, or power interrupt tests); in place, onsite, or offsite (e.g., vendor) test measurements; or utilizing vendor engineering specifications.

The NRC Safety Evaluation Report (SER) for WCAP-13632-P-A, Rev. 2, requires confirmation by the licensee that the generic analysis in the WCAP is applicable to their plant, and that the licensee commit to the following actions:

a. Perform a hydraulic response time test prior to installation of a new transmitter/switch or following refurbishment of the transmitter/switch (e.g., sensor cell or variable damping components) to determine an initial sensor-specific response time value.

b. For transmitter and switches that use capillary tubes, perform a response time test after initial installation and after any maintenance or modification activity that could damage the capillary tubes.

c. If variable damping is used, implement a method to assure that the potentiometer is at the required setting and cannot be inadvertently changed, or perform a hydraulic response time test of the sensor following each calibration.

d. Perform periodic drift monitoring of all Model 1151, 1152, 1153, and 1154 Rosemount pressure and differential pressure transmitters, for which response time testing elimination is proposed, in accordance with the guidance contained in Rosemount Technical Bulletin No. 4 and continue to remain in full compliance with any prior commitments to Bulletin 90-01, Supplement 1, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount." As an alternative to performing periodic drift monitoring of Rosemount transmitters, licensees may complete the following actions: (a) ensure that operators and technicians are aware of the Rosemount transmitter loss of fill-oil issue and make provisions to ensure that technicians monitor for sensor response time degradation during the performance of calibrations and functional tests of these transmitters; and (b) review and revise surveillance testing procedures, if necessary, to ensure that calibrations are being performed using equipment designed to provide a step function or fast ramp in the process variable and that calibrations and functional tests are being performed in a manner that allows simultaneous monitoring of both the input and output response of the transmitter under test, thus allowing, with reasonable assurance, the recognition of significant response time degradation.

To comply with the requirements of the WCAP-13632-P-A, Rev. 2, SER, CNP commits to the following:

a. The applicable plant procedures will include requirements that stipulate that pressure and differential pressure sensor response times must be verified by performance of an appropriate response time test prior to placing a sensor into operational service, and re-verified following maintenance that may adversely affect sensor response time.

b. The applicable plant procedures, and/or other appropriate administrative controls, will include requirements that stipulate that pressure and differential pressure sensors (transmitters and switches) utilizing capillary tubes (e.g., containment pressure), shall be subjected to response time testing after initial installation and following any maintenance or modification activity that could damage the transmitter capillary tubes. The only transmitters that use capillary tubes at CNP, and are being proposed to have their response times optionally verified in lieu of measurement using the WCAP-13632-P-A methodology, are shown in the table below:

RTS Function (ITS Table 3.3.1-1)	Unit 1 and Unit 2 Instruments	Manufacturer and Model Number
9. Pressurizer Water Level – High	1-LT-459 2-LT-459	Foxboro N-E13DH-HIH2-AL
9. Pressurizer Water Level – High	1-LT-460, 461 2-LT-460, 461	Foxboro N-E13DH-HIH2

These transmitters for Pressurizer Water Level have filled capillary lines for the reference side of the instrument.

c. CNP has no pressure or differential pressure transmitters with variable damping installed in any RTS or ESFAS application that are being proposed to have their response times optionally verified in lieu of measurement using the WCAP-13632-P-A methodology. However, modifications may be performed in the future to install transmitters with variable damping capability for one or more of the applicable pressure or differential pressure sensors. If this occurs, then the applicable plant procedures, and/or other appropriate administrative controls, will be developed or revised to implement a method to assure that the potentiometer is at the required setting and cannot be inadvertently changed, or that a hydraulic response time test of the sensor is performed following each calibration.

d. I&M responded to NRC Bulletins 90-01, "Loss of Fill-Oil in Transmitters Manufactured by Rosemount," on May 24, 1990, and its supplement (Supplement 1) on March 1, 1993. In these responses, I&M specified that there were no Rosemount transmitters installed in safety-related systems at CNP, and the NRC determined that this confirmation provided an adequate basis to consider NRC's review of the I&M response complete as documented in letters dated December 11, 1990, and April 16, 1993, respectively. No further reviews have been conducted by the NRC regarding the concerns identified in NRC Bulletin 90-01, including Supplement 1, and the concerns identified have been resolved for CNP. In addition, there are still no Rosemount transmitters installed in safety-related systems at CNP. However, periodic technician training is conducted that addresses awareness of this issue, and technicians are trained to monitor for sluggish response of pressure and differential pressure sensors during maintenance and testing activities. Based on the current status of this issue, no further actions are required.

Based on this evaluation, the change to eliminate response time testing requirements for the specific pressure and differential pressure sensors identified in the two tables above is acceptable because the analysis presented in WCAP-13632-P-A, Rev. 2, has been determined to be applicable to CNP, and I&M has committed to the additional actions required by the NRC SER approving this Topical Report.

WCAP-14036-P-A, Rev. 1, contains the technical basis and methodology for eliminating response time testing requirements for signal processing and actuation logic components of the RTS and ESFAS protection channels identified in the WCAP. The justification for this elimination is based on a Failure Modes and Effects Analysis (FMEA) that either determined that individual component degradation had no response time impact; or identified components that may contribute to RTS or ESFAS response time degradation. Where potential response time impact was identified, testing was conducted to determine the magnitude of the response time degradation, or a bounding response time limit for the system or component was identified. As described in the Bases for ITS SR 3.3.1.19 and ITS SR 3.3.2.13, the allocations for sensor, signal conditioning, and actuation logic response times must be verified prior to placing the component in operational service and re-verified following maintenance work that may adversely affect response time. For the identified signal processing and actuation logic components, bounding response time allocation will be derived from design response time specifications for the component.

The NRC Safety Evaluation Report (SER) for WCAP-14036-P-A, Rev. 1, requires confirmation by the licensee that the FMEA in the WCAP is applicable to the equipment actually installed in the facility, and that the analysis is valid for the versions of the boards used in the facility protection system.

WCAP-14036-P-A has been reviewed and evaluated against the actual RTS and ESFAS signal processing and actuation logic used at CNP to determine applicability. At CNP, signal processing of most of the RTS and ESFAS sensor inputs is performed using Foxboro Spec 200 and Foxboro Spec 200µ signal conditioning racks. This signal processing equipment is not included in the specific equipment evaluated in the WCAP. Therefore, I&M will continue to measure the response time of this equipment instead of using allocated response times.

For neutron flux RTS protection channels, signal processing is performed by the Westinghouse Nuclear Instrumentation System (NIS), and the Westinghouse Solid State Protection System (SSPS) is used for the protection channel actuation logic. Neutron detectors are exempted from response time testing as shown in proposed ITS SR 3.3.1.19. For the other RTS and ESFAS protection channels using either Foxboro Spec 200 or Foxboro Spec 200µ signal processing, and for the reactor coolant pump undervoltage and underfrequency RTS and ESFAS protection channels, the Westinghouse SSPS is used for the protection channel actuation logic. Sections 4.6 and 4.8 of WCAP-14036-P-A describe the results of the FMEA for the NIS and SSPS used at CNP, respectively, and I&M has verified that the FMEA is applicable to the NIS and SSPS equipment actually installed at CNP. As described in WCAP-14036-P-A, the FMEA alone was used for the NIS to establish response time degradation limits that are not detectable by other periodic surveillance tests. For the SSPS, response time degradation limits are based on the response time of relays, since the relays are the limiting response time component in this system. In both cases, testing was not required to determine the magnitude of the response time degradation. Therefore, the results of the NIS FMEA and evaluation of SSPS relay response times in the WCAP, and confirmation that the specific equipment used at CNP is addressed by these evaluations in the WCAP, demonstrate the acceptability of eliminating response time testing requirements for components of these two systems.

Signal processing components and actuation logic components for the following RTS Functions (as shown in ITS Table 3.3.1-1) have been confirmed to be specifically addressed by WCAP-14036-P-A, and are proposed to have their response times optionally verified in lieu of measurement using the WCAP-14036-P-A methodology:

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RTS Function (ITS Table 3.3.1-1)		Signal Processing System	Actuation Logic System
2.a.	Power Range Neutron Flux - High	Westinghouse NIS	Westinghouse SSPS
2.b.	Power Range Neutron Flux - Low	Westinghouse NIS	Westinghouse SSPS
6.	Overtemperature ΔT	Note(1)	Westinghouse SSPS
7.	Overpower ΔT	Note(1)	Westinghouse SSPS
8.a.	Pressurizer Pressure - Low	Note(1)	Westinghouse SSPS
8.b.	Pressurizer Pressure - High	Note(1)	Westinghouse SSPS
10.	Reactor Coolant Flow - Low	Note(1)	Westinghouse SSPS
12.	Undervoltage RCPs	Note(1)	Westinghouse SSPS
13.	Underfrequency RCPs	Note(1)	Westinghouse SSPS
14.	Steam Generator (SG) Water Level – Low Low	Note(1)	Westinghouse SSPS
17.	Safety Injection (SI) Input from Engineered Safety Feature Actuation System (ESFAS)	Note(1)	Westinghouse SSPS

(1) RTS RESPONSE TIME will continue to be measured.

Signal processing components and actuation logic components for the following ESFAS Functions (as shown in ITS Table 3.3.2-1) have been confirmed to be specifically addressed by WCAP-14036-P-A, and are proposed to have their response times optionally verified in lieu of measurement using the WCAP-14036-P-A methodology:

ESFAS Function (ITS Table 3.3.2-1)		Signal Processing System	Actuation Logic System
1.c.	Safety Injection, Containment Pressure - High	Note(2)	Westinghouse SSPS
1.d.	Safety Injection, Pressurizer Pressure - Low	Note(2)	Westinghouse SSPS

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ITS CHAPTER 1.0, USE AND APPLICATION

ESFAS Function (ITS Table 3.3.2-1)	Signal Processing System	Actuation Logic System
1.e.(1) Safety Injection, Steam Line Pressure - Low	Note(2)	Westinghouse SSPS
2.c. Containment Spray, Containment Pressure – High High	Note(2)	Westinghouse SSPS
4.c. Steam Line Isolation, Containment Pressure – High High	Note(2)	Westinghouse SSPS
4.d. Steam Line Isolation, Steam Line Pressure - Low	Note(2)	Westinghouse SSPS
5.b. Turbine Trip and Feedwater Isolation, Steam Generator (SG) Water Level – High High	Note(2)	Westinghouse SSPS
6.c. Auxiliary Feedwater, Steam Generator (SG) Water Level – Low Low	Note(2)	Westinghouse SSPS
6.f. Auxiliary Feedwater, Undervoltage Reactor Coolant Pump	Note(2)	Westinghouse SSPS
7.c. Containment Air Recirculation/Hydrogen Skimmer (CEQ) System, Containment Pressure - High	Note(2)	Westinghouse SSPS

(2) ESFAS RESPONSE TIME will continue to be measured.

The response time to be allocated in place of response times obtained through actual measurement during the period of verification may be obtained according to the methodology described in WCAP-14036-P-A, Rev. 1, as described in the Bases for ITS SR 3.3.1.19 and ITS SR 3.3.2.13.

Based on this evaluation, the change to eliminate response time testing requirements for the specific signal processing and actuation logic components of the RTS and ESFAS protection channels described above is acceptable because the analysis presented in WCAP-14036-P-A, Rev. 1, has been determined to be applicable to CNP, as required to be confirmed by the NRC SER approving this Topical Report.

This change is designated as less restrictive because some components which must be response time tested under the CTS will not require response time testing under the ITS.

L.4 The CTS Section 1.0 definition of DOSE EQUIVALENT I-131 requires that the DOSE EQUIVALENT I-131 be calculated using either the thyroid dose conversion factors found in Table III of TID 14844, “Calculation of Distance Factors for Power and Test Reactor Sites,” or those listed in Regulatory Guide

DISCUSSION OF CHANGES
ITS CHAPTER 1.0, USE AND APPLICATION

(RG) 1.109, Rev. 1 (Table E-7). The ITS allows DOSE EQUIVALENT I-131 to be calculated using any one of three thyroid dose conversion factors: TID-14844 (1962); Table E-7 of RG 1.109, Rev. 1 (1977); or ICRP 30, Supplement to Part 1, page 192-212, Table Titled "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity." This changes the CTS by allowing a third method, ICRP 30, Supplement to Part 1, to be used to calculate DOSE EQUIVALENT I-131.

The purpose of the defined term is to provide acceptable methods for computing DOSE EQUIVALENT I-131. Using thyroid dose conversion factors other than those given in TID-14844 results in lower doses and higher allowable activity but is justified by the discussion given in the Federal Register (FR page 23360 VI 56 No 98 May 21, 1991). This discussion accompanied the final rulemaking on 10 CFR 20 by the NRC. In that discussion, the NRC stated that they were incorporating modifications to existing concepts and recommendations of the ICRP and NCRP into NRC regulations. Incorporation of the methodology of ICRP 30 into the 10 CFR 20 revision was specifically mentioned with the explanation that changes being made result from changes in the scientific techniques and parameters used in calculating dose. In a response to a specific question as to whether or not the ICRP 30 dose parameters should be used, the NRC stated "Appropriate parameters for calculating organ doses can be found in ICRP 30 and its supplements..." Lastly, Commissioner Curtis provided additional views of the revised 10 CFR 20 with respect to the backfit rule. In that discussion, he stated that the AEC, when they issued the original 10 CFR 20, had emphasized that the standards were subject to change with the development of new knowledge and experience. He went on to say that the limits given in the revised 10 CFR 20 were based on up-to-date metabolic models and dose factors. This Federal Register entry shows clearly that, in general, the NRC was updating 10 CFR 20 to incorporate ICRP-30 recommendations and data. Given this discussion, it is concluded that using ICRP thyroid dose conversion factors to calculate DOSE EQUIVALENT I-131 is acceptable. In addition, RG 1.109 was developed by the NRC for the purpose of evaluating compliance with 10 CFR 50, Appendix I. The RG 1.109 thyroid dose conversion factors are higher than the ICRP 30 thyroid dose conversion factors for all five iodine isotopes in question. Therefore, using RG 1.109 thyroid dose conversion factors to calculate DOSE EQUIVALENT I-131 is more conservative than ICRP 30 and is therefore acceptable.

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

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1.0 USE AND APPLICATION

1.1 Definitions

Section 1.0

- NOTE -

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

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
DOC A.15 ACTUATION LOGIC TEST	An ACTUATION LOGIC TEST shall be the application of various simulated or actual input combinations in conjunction with each possible interlock logic state required for OPERABILITY of a logic circuit and the verification of the required logic output. The ACTUATION LOGIC TEST, as a minimum, shall include a continuity check of output devices.
Section 1.0 AXIAL FLUX DIFFERENCE (AFD)	AFD shall be the difference in normalized flux signals between the top and bottom halves of a two section excore neutron detector. (1)
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. 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.
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.

CTS

Section 1.0

1.1 Definitions

CHANNEL OPERATIONAL TEST (COT)	A COT shall be 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 COT shall include adjustments, as necessary, of the required alarm, interlock, and trip setpoints required for channel OPERABILITY such that the setpoints are within the necessary range and accuracy. The COT may be performed by means of any series of sequential, overlapping, or total channel steps.
CORE ALTERATION	CORE ALTERATION shall be the movement of any fuel, sources, or reactivity control components, within the reactor vessel with the vessel head removed and fuel in the vessel. Suspension of CORE ALTERATIONS shall not preclude completion of movement of a component to a safe position.
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 5.6.5. Plant Unit (5) operation within these limits is addressed in individual Specifications.
DOSE EQUIVALENT I-131	DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in [Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or ICRP 30, Supplement to Part 1, page 192-212, Table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity"]. (1) (4) those listed in (4) (1)
Ē - AVERAGE DISINTEGRATION ENERGY	Ē shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives > [15] minutes, making up at least 95% of the total noniodine activity in the coolant. (1)

CTS

Section 1.0

1.1 Definitions

ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME	The ESF RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its 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.
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 either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE, or

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

b. Unidentified LEAKAGE

All LEAKAGE (except RCP seal water injection or leakoff) that is not identified LEAKAGE, and ; (6)

c. Pressure Boundary LEAKAGE

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

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1.1 Definitions

DOC 1.0 A.15

MASTER RELAY TEST	A MASTER RELAY TEST shall consist of energizing each required master relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required master relay. The MASTER RELAY TEST shall include a continuity check of each associated required slave relay. The MASTER RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps. (all)	(4)
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.	
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).	
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 (and Operation)s of the (U)FSAR; (3) b. Authorized under the provisions of 10 CFR 50.59, or (;) c. Otherwise approved by the Nuclear Regulatory Commission.	(1) (5) (6) (6)
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 and the LTOP arming temperature, for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification 5.6.6. Plant operation within these operating	(2) <TSTF-419 Not shown>

Section 1.0

CTS

1.1 Definitions

PRESSURE AND TEMPERATURE LIMITS REPORT (continued)

limits is addressed in LCO 3.4.3, "RCS Pressure and Temperature (P/T) Limits," and LCO 3.4.12, "Low Temperature Overpressure Protection (LTOP) System."

(TSTF-419 Not shown) (2)

Section 1.0

QUADRANT POWER TILT RATIO (QPTR)	QPTR shall be the ratio of the maximum upper excore detector calibrated output to the average of the upper excore detector calibrated outputs, or the ratio of the maximum lower excore detector calibrated output to the average of the lower excore detector calibrated outputs, whichever is greater.
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of [2893] MWt. (3304) (for Unit 1 and 3468 MWt for Unit 2) (1)
REACTOR TRIP SYSTEM (RTS) RESPONSE TIME	The RTS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RTS trip setpoint at the channel sensor until loss of stationary gripper coil voltage. 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.
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 rod cluster control assemblies (RCCAs) are fully inserted except for the single RCCA of highest reactivity worth, which is assumed to be fully withdrawn. However, with all RCCAs verified fully inserted by two independent means, it is not necessary to account for a stuck RCCA in the SDM calculation. (3) With any RCCA not capable of being fully inserted, the reactivity worth of the RCCA must be accounted for in the determination of SDM; and (6) b. In MODES 1 and 2, the fuel and moderator temperatures are changed to the [nominal zero power design level]. (1)

CTS

1.1 Definitions

SLAVE RELAY TEST	A SLAVE RELAY TEST shall consist of energizing each required (all) slave relays in the channel required for channel OPERABILITY and verifying the OPERABILITY of each required slave relay. The SLAVE RELAY TEST shall include a continuity check of associated required testable actuation devices. The SLAVE RELAY TEST may be performed by means of any series of sequential, overlapping, or total steps. (4)
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.
THERMAL POWER	THERMAL POWER shall be the total reactor core heat transfer rate to the reactor coolant.
TRIP ACTUATING DEVICE OPERATIONAL TEST (TADOT)	A TADOT shall consist of operating the trip actuating device and verifying the OPERABILITY of all devices in the channel required for trip actuating device OPERABILITY. The TADOT shall include adjustment, as necessary, of the trip actuating device so that it actuates at the required setpoint within the necessary accuracy. The TADOT may be performed by means of any series of sequential, overlapping, or total channel steps.

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Section 1.0

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Table 1.1

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]
4	Hot Shutdown[b]	< 0.99	NA	[350] > T_{avg} > [200]
5	Cold Shutdown[b]	< 0.99	NA	≤ [200]
6	Refueling[c]	NA	NA	NA

①
①
①

(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.

CTS

1.0 USE AND APPLICATION

1.2 Logical Connectors

Doc A.17

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 indentations 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.

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1.2 Logical Connectors

EXAMPLES (continued)

DOC A.17

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.

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1.2 Logical Connectors

EXAMPLES (continued)

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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.

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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 time of 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. 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 Completion Times are tracked for each Condition starting from the time of discovery of the situation that required entry into the Condition.

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.

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 (;) (6)

CTS

1.3 Completion Times

DESCRIPTION (continued)

DOC A.17

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~~ ; (6)

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 . . ." Example 1.3-3 illustrates one use of this type of Completion Time. The 10 day Completion Time specified for Conditions A and B in Example 1.3-3 may not be extended.

EXAMPLES

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

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DOC A.17

1.3 Completion Times

EXAMPLES (continued)

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.

CTS

1.3 Completion Times

EXAMPLES (continued)

DOC A.17

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, Condition 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.

CTS

1.3 Completion Times

EXAMPLES (continued)

DOC A.17

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.

CTS

1.3 Completion Times

EXAMPLES (continued)

DOC A.17

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 AND 10 days from discovery of failure to meet the LCO
B. One Function Y train inoperable.	B.1 Restore Function Y train to OPERABLE status.	72 hours AND 10 days from discovery of failure to meet the LCO
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).

CTS

1.3 Completion Times

DOC A.17

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).

The Completion Times of Conditions A and B are modified by a logical connector with a separate 10 day Completion Time measured from the time it was discovered the LCO was not met. In this example, without the separate Completion Time, it would be 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. The separate Completion Time modified by the phrase "from discovery of failure to meet the LCO" is designed to prevent indefinite continued operation while not meeting the LCO. This Completion Time allows for an exception to the normal "time zero" for beginning the Completion Time "clock." In this instance, the Completion Time "time zero" is specified as commencing at the time the LCO was initially not met, instead of at the time the associated Condition was entered.

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1.3 Completion Times

EXAMPLES (continued)

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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.

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.

CTS

1.3 Completion Times

EXAMPLES (continued)

DOC A.17

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.

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.

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1.3 Completion Times

EXAMPLES (continued)

DOC A.17

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

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1.3 Completion Times

EXAMPLES (continued)

DOC A.17

EXAMPLE 1.3-6

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One channel inoperable.	A.1 Perform SR 3.x.x.x. OR A.2 Reduce THERMAL POWER to ≤ 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

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.

CTS

1.3 Completion Times

EXAMPLES (continued)

DOC A.17

EXAMPLE 1.3-7

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One subsystem inoperable.	A.1 Verify affected subsystem isolated. AND A.2 Restore subsystem to OPERABLE status.	1 hour AND Once per 8 hours thereafter 72 hours
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

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.

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1.3 Completion Times

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

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CTS

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.

10C A.17

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. (4)

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. (4)

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. (4)

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: (4)

CTS

1.4 Frequency

DESCRIPTION (continued)

Doc A.17

a. The Surveillance is not required to be met in the MODE or other specified condition to be entered; or (5) (6)

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. (t) (4)

Examples 1.4-3, 1.4-4, 1.4-5, and 1.4-6 discusses these special situations. (4)

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.

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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, the Surveillance must be performed within the Frequency requirements of SR 3.0.2 prior to entry into the MODE or other specified condition. Failure to do so would result in a violation of SR 3.0.4.

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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 25% 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.

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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 with power ≥ 25% RTP.

was (4)

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, there would then be a failure to perform a Surveillance within the specified Frequency, and the provisions of SR 3.0.3 would apply.

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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 [was] (4) 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 [was] (4) not met), SR 3.0.4 would require satisfying the SR.

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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, (5) or 3 (the assumed Applicability of the associated LCO) between performances. (4)

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 (was) 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. (4)

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 (was) 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. (4)

CTS

1.4 Frequency

EXAMPLES (continued)

DOC A.17

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. was (1) (4) (4) (4)

JUSTIFICATION FOR DEVIATIONS
ITS CHAPTER 1.0, USE AND APPLICATION

1. The brackets are removed and the proper plant specific information/value is provided.

2. CNP 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 was not incorporated in the ITS.

3. The ISTS SHUTDOWN MARGIN definition includes an exception to not assume a stuck rod if all rods can be verified inserted by two independent means. The CNP plant design does not provide two independent means to verify a rod is fully inserted. Therefore, the allowance cannot be used and is removed to avoid confusion.

4. Typographical/grammatical error corrected.

5. The proper plant specific information/nomenclature/value is provided.

6. These punctuation corrections have been made consistent with the Writer's Guide for the Improved Standard Technical Specifications, NEI 01-03, Section 5.1.3.

Specific No Significant Hazards Considerations (NSHCs)

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

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.1

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse 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-1431.

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 renames the CTS definition to CHANNEL OPERATIONAL TEST (COT) as discussed in DOC A.7. The ITS Section 1.1 COT definition allows the use of an actual or simulated signal when performing the test. This changes the CTS by allowing the use of unplanned actuations to perform the Surveillance 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, 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 a Surveillance where only a simulated signal was previously allowed.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes 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 COT. 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.

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ITS CHAPTER 1.0, USE AND APPLICATION

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 COT. This change will not physically alter the plant (no new or different type of equipment will be installed). The change also 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 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 COT. 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, I&M concludes that the proposed change presents no 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.

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

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.2

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse 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-1431.

The CTS Section 1.0 definition of CORE ALTERATION applies to the movement or manipulation of any component in the reactor vessel with the vessel head removed and fuel in the vessel. The ITS Section 1.1 definition of CORE ALTERATION will only apply to the movement of fuel, sources, or reactivity control components in the reactor vessel. This changes the CTS by eliminating from the definition of CORE ALTERATION the movement of any components in the reactor vessel that are not fuel, sources, or reactivity control components. The elimination of “or manipulation” from the definition is discussed in DOC A.8.

The defined term CORE ALTERATION in the ITS is used to prevent a core reactivity excursion. Other accidents which can occur during refueling conditions, such as a fuel handling accident or boron dilution accident, are addressed in the ITS by prohibitions on the movement of irradiated fuel or prohibitions on positive reactivity additions. This change is acceptable because the ITS definition of CORE ALTERATION controls the movement of components such as fuel, sources, and reactivity control components that can affect core reactivity. The CTS definition also prohibits the movement of other equipment such as cameras, thimble plugs, and core internals that have little, if any, effect on core reactivity. Therefore, controlling the movement of those items under the definition of CORE ALTERATION is not necessary. This change is designated as less restrictive because the ITS definition applies in fewer circumstances than does the CTS definition.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes 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 definition of CORE ALTERATION to be the movement of fuel, sources, or reactivity control components within the reactor vessel rather than the movement of any component within the reactor vessel. This change will not affect the probability of an accident. The only component within the reactor vessel assumed to be an initiator of an event previously evaluated is an irradiated fuel assembly when it is dropped. None of the other components are initiators of any analyzed event. As fuel is retained in the list of components which, when moved, constitute a CORE ALTERATION, the probability of a fuel handling accident is not affected. Also, this change has no

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

effect on the probability of a boron dilution event because a boron dilution event is not initiated by movement of components in the reactor vessel. The consequences of an accident are not affected by this change as movement of the components being excluded from the definition of CORE ALTERATION do not act to mitigate the consequences of any 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 revises the definition of CORE ALTERATION to be the movement of fuel, sources, or reactivity control components within the reactor vessel rather than the movement of any component within the reactor vessel. This change will not physically alter the plant (no new or different type of equipment will be installed). The changes in methods governing normal plant operation are consistent with current safety analysis assumptions. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No.

The proposed change revises the definition of CORE ALTERATION to be the movement of fuel, sources, or reactivity control components within the reactor vessel rather than the movement of any component within the reactor vessel. The margin of safety is not affected by this change because the safety analysis assumptions are not affected. The safety analyses do not address the movement of components within the reactor vessel other than fuel, sources, and reactivity control components. Fuel continues to be included in the CORE ALTERATION definition. Also, the shutdown margin is unaffected by the movement of components other than fuel, sources, and reactivity control components because the movement of other components will not significantly change core reactivity. No change is being proposed in the application of the definition to the movement of components which are factors in the design basis analyses. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, I&M concludes that the proposed change presents no 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.

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DETERMINATION OF NO SIGNIFICANT HAZARDS CONSIDERATIONS
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10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.3

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse 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-1431.

The CTS Section 1.0 definitions of ENGINEERED SAFETY FEATURE RESPONSE TIME and REACTOR TRIP SYSTEM RESPONSE TIME require measurement of the response time from the sensor through the actuated equipment. The ITS definitions of ENGINEERED SAFETY FEATURE (ESF) RESPONSE TIME and REACTOR TRIP SYSTEM (RTS) RESPONSE TIME are modified to state "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." This changes the CTS by eliminating the requirement to include all components in a response time test.

The purpose of response time testing is to ensure that the system response time, from measurement of a parameter to actuation of the appropriate device, is consistent with the assumptions in the safety analyses. WCAP-13632-P-A, Rev. 2, "Elimination of Pressure Sensor Response Time Testing Requirements," dated January 1996, justified the elimination of the pressure sensor response time testing requirements and allows the response time for selected components to be verified instead of measured. WCAP-14036-P-A, Rev. 1, "Elimination of Periodic Protection Channel Response Time Tests," provides the basis for using allocated signal processing actuation logic response times in the overall verification of the protection system channel response time. This change is acceptable because the cited Topical Reports have demonstrated that modified response time tests will continue to provide assurance that the systems will perform their functions as assumed in the safety analysis. In addition, the Topical Reports have been determined to be applicable to the specific components for which CNP is requesting this allowance, as described in the Discussion of Change. This change is designated as less restrictive because some components which must be response time tested under the CTS will not require response time testing under the ITS.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes 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 allows some devices to be assigned an allocated response time, instead of a measured response time, when performing response time testing of the RTS and ESFAS protection channels. This change does not alter the design, material, and construction standards that were applicable prior to the change. The same RTS and ESFAS instrumentation is being used, and the time response allocations and modeling assumption in the safety and accident analyses as described in Chapter 14 of the CNP Updated Final Safety Analysis Report (UFSAR) remain the same, with only the method of verifying time response changed. The proposed change does not modify any system interface, and could not increase the probability of an accident because these events are independent of this change. The proposed change does not change, degrade, or prevent actions or alter any assumptions previously made in evaluating the radiological consequences of an accident described in the CNP UFSAR. 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 allows some devices to be assigned an allocated response time, instead of a measured response time, when performing response time testing of the RTS and ESFAS protection channels. This change does not alter the performance of the pressure and differential pressure transmitters and switches, signal processing components, or actuation logic components used in the RTS and ESFAS protection systems. All applicable pressure and differential pressure sensors, signal processing components, and actuation logic components of the RTS and ESFAS protection systems will still have response time verified by test before placing the sensor in operational service and after any maintenance that could affect response time. Changing the method of periodically verifying response for certain components of the RTS and ESFAS protection systems (assuring component operability) from time response testing to calibration and channel checks does not create any new accident initiators or scenarios. Periodic surveillance of these components will continue, and may be used to detect significant degradation in the response characteristic that may cause the total response time allowance of the RTS and ESFAS protection systems to be exceeded. The total time response allowance for each RTS and ESFAS protection function bounds all degradation that cannot be detected by periodic surveillance. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No.

The proposed change allows some devices to be assigned an allocated response time, instead of a measured response time, when performing response time testing of the RTS and ESFAS protection channels. The change does not affect the total system response times assumed in the safety analyses. The periodic system response time verification method for selected pressure and differential pressure sensors, signal processing components, and actuation logic components is modified to allow use of actual test data or engineering data. The method of verification still provides assurance that the total system response is within that defined in the safety analyses. Periodic surveillance of these components will continue, and may be used to detect significant degradation in the response characteristic that may cause the total response time allowance of the RTS and ESFAS protection systems to be exceeded. The total time response allowance for each RTS and ESFAS protection function bounds all degradation that cannot be detected by periodic surveillance. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, I&M concludes that the proposed change presents no 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.

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

10 CFR 50.92 EVALUATION
FOR
LESS RESTRICTIVE CHANGE L.4

CNP is converting to the Improved Technical Specifications (ITS) as outlined in NUREG-1431, "Standard Technical Specifications, Westinghouse 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-1431.

The CTS Section 1.0 definition of DOSE EQUIVALENT I-131 requires that the DOSE EQUIVALENT I-131 be calculated using either the thyroid dose conversion factors found in Table III of TID 14844, “Calculation of Distance Factors for Power and Test Reactor Sites,” or those listed in Regulatory Guide (RG) 1.109, Rev. 1 (Table E-7). The ITS allows DOSE EQUIVALENT I-131 to be calculated using any one of three thyroid dose conversion factors: TID-14844 (1962); Table E-7 of RG 1.109, Rev. 1 (1977); or ICRP 30, Supplement to Part 1, page 192-212, Table Titled "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity." This changes the CTS by allowing a third method, ICRP 30, Supplement to Part 1, to be used to calculate DOSE EQUIVALENT I-131.

The purpose of the defined term is to provide acceptable methods for computing DOSE EQUIVALENT I-131. Using thyroid dose conversion factors other than those given in TID-14844 results in lower doses and higher allowable activity but is justified by the discussion given in the Federal Register (FR page 23360 Vl 56 No 98 May 21, 1991). This discussion accompanied the final rulemaking on 10 CFR 20 by the NRC. In that discussion, the NRC stated that they were incorporating modifications to existing concepts and recommendations of the ICRP and NCRP into NRC regulations. Incorporation of the methodology of ICRP 30 into the 10 CFR 20 revision was specifically mentioned with the explanation that changes being made result from changes in the scientific techniques and parameters used in calculating dose. In a response to a specific question as to whether or not the ICRP 30 dose parameters should be used, the NRC stated "Appropriate parameters for calculating organ doses can be found in ICRP 30 and its supplements..." Lastly, Commissioner Curtis provided additional views of the revised 10 CFR 20 with respect to the backfit rule. In that discussion, he stated that the AEC, when they issued the original 10 CFR 20, had emphasized that the standards were subject to change with the development of new knowledge and experience. He went on to say that the limits given in the revised 10 CFR 20 were based on up-to-date metabolic models and dose factors. This Federal Register entry shows clearly that, in general, the NRC was updating 10 CFR 20 to incorporate ICRP-30 recommendations and data. Given this discussion, it is concluded that using ICRP thyroid dose conversion factors to calculate DOSE EQUIVALENT I-131 is acceptable. In addition, RG 1.109 was developed by the NRC for the purpose of evaluating compliance with 10 CFR 50, Appendix I. The RG 1.109 thyroid dose conversion factors are higher than the ICRP 30 thyroid dose conversion factors for all five iodine isotopes in question. Therefore, using RG 1.109 thyroid dose conversion factors to calculate DOSE EQUIVALENT I-131 is more conservative than ICRP 30 and is therefore acceptable.

Indiana Michigan Power Company (I&M) has evaluated whether or not a significant hazards consideration is involved with these proposed Technical Specification changes

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

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 use of ICRP 30 thyroid dose conversion factors to calculate DOSE EQUIVALENT I-131 is a change in analysis methodology which does not include a physical change to the plant, a new mode of plant operation, or a change in surveillance frequency. Therefore, the probability of a previously analyzed accident would not increase. If ICRP 30 thyroid dose conversion factors are used to calculate maximum dose equivalent iodine specific activity, the total iodine activity (in units of μCi/gm) will increase and this activity is used to calculate the doses resulting from a Main Steam Line Break (MSLB) or other analyzed accident. The calculated thyroid doses resulting from a MSLB or other analyzed accident would not increase as the same dose conversion factors used to calculate the DOSE EQUIVALENT I-131 thyroid activity would also be used to calculate the offsite thyroid doses. However, these dose conversion factors would be less than TID-14844 thyroid dose conversion factors used to calculate doses given in the UFSAR. 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 does not create the possibility of a new or different kind of accident from any accident previously evaluated because the proposed change does not introduce a new mode of plant operation and does not require physical modification of the plant. Therefore, the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

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

Response: No.

The proposed change only refines the method of calculating thyroid doses and DOSE EQUIVALENT I-131 activity. Using this method would not result in the thyroid doses changing significantly, since the same dose factors would be used to calculate the thyroid doses and DOSE EQUIVALENT I-131 activity. Therefore, the proposed change does not involve a significant reduction in a margin of safety.

Based on the above, I&M concludes that the proposed change presents no 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.

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