1.0 USE AND APPLICATION

1.1 Definitions

NOTE

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

Term	Definition
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
AVERAGE BUNDLE EXPOSURE	The AVERAGE BUNDLE EXPOSURE shall be equal to the sum of the axially averaged exposure of the fuel rods in the specified bundle divided by the number of fuel rods in the fuel bundle. (not used)
AVERAGE PLANAR EXPOSURE	The AVERAGE PLANAR EXPOSURE shall be applicable to a specific planar height and is equal to the sum of the exposure of all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle.
AVERAGE PLANAR LINEAR HEAT GENERATION RATE (APLHGR)	The APLHGR shall be applicable to a specific planar height and is equal to the sum of the LHGRs heat generation rate per unit length of fuel rod for all the fuel rods in the specified bundle at the specified height divided by the number of fuel rods in the fuel bundle at the height.
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 the entire channel, including the required sensor, alarm, display, and trip functions, and shall include the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors shall consist of an inplace cross calibration of the sensing elements and normal calibration of the

(continued)

1.1 Definitions

CHANNEL CALIBRATION (continued)	remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required inplace cross calibration consists of comparing the other sensing elements with the recently installed sensing element. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is calibrated.
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.
CHANNEL FUNCTIONAL TEST	A CHANNEL FUNCTIONAL TEST shall be: a. Analog channels—the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY, including required alarm, interlock, display, and trip functions, and channel failure trips. b. Bistable channels (e.g., pressure switches and switch contacts)—the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY, including required alarm and trip functions. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total channel steps so that the entire channel is tested.
COMPREHENSIVE FUNCTIONAL TEST	A COMPREHENSIVE FUNCTIONAL TEST (CoFT) is a set of tests that exercises each RPS, ESF ~~actuation~~, and MSIV isolation function by simulating accident events that exercise the inputs and outputs of the SSLC, NMS, RPS/MSIV logic and ESF actuation logic.

PRRM, actuation

(continued)

1.1 Definitions

COMPREHENSIVE FUNCTIONAL TEST (continued)	A CoFT also simulates power failures, measures CPU and network performance, runs microprocessor and application-specific diagnostics, ~~tests input~~ out-of-range conditions, ~~and tests analog inputs to~~ verify OPERABILITY of the SSLC electronics, ~~including~~ alarms, and displays.
CORE ALTERATION	CORE ALTERATION shall be the movement of any fuel, sources, reactivity control components, or other components affecting reactivity within the reactor vessel with the vessel head removed and fuel in the vessel. Movement of startup range neutron monitors, local power range monitors, traversing incore probes, or special movable detectors (including undervessel replacement) is not considered a CORE ALTERATION. In addition, control rod movement with other than the normal control rod drive is not considered a CORE ALTERATION provided there are no fuel assemblies in the associated core cell. 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 limits shall be determined for each reload cycle in accordance with Specification [5.x]. Plant operation within these limits is addressed in individual Specifications.
DIVISION FUNCTIONAL TEST	The injection of simulated or actual signals into a division as close to the sensors as practicable to verify OPERABILITY of SENSOR CHANNELS and LOGIC CHANNELS in that division. The DIVISION FUNCTIONAL TEST may be performed by means of a series of sequential or overlapping steps. As a minimum the test shall comprise all the equipment from the DTM inputs to LOGIC CHANNEL outputs. This test shall also verify that the inputs to the DTMs are the same as the information presented at the control room indicators. To be performed quarterly.

(continued)

1.1 Definitions

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 Federal Guidance Report No. 11.
$\bar{E}$—AVERAGE DISINTEGRATION ENERGY	$\bar{E}$ 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 > 15 minutes, making up at least 95% of the total noniodine activity in the coolant.
EMERGENCY CORE COOLING SYSTEM (ECCS) RESPONSE TIME	The ECCS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its ECCS initiation setpoint at the channel sensor until the ECCS 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.
ISOLATION SYSTEM RESPONSE TIME	The ISOLATION SYSTEM RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its isolation setpoint at the channel sensor until the isolation valves travel to their required positions. 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.

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1.1 Definitions

LEAKAGE	LEAKAGE shall be: a. Identified LEAKAGE 1. LEAKAGE into the drywell such as that from pump seals or valve packing, that is captured and conducted to a sump or collecting tank; or 2. LEAKAGE into the drywell 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; b. Unidentified LEAKAGE All LEAKAGE into the drywell that is not identified LEAKAGE; c. Total LEAKAGE Sum of the identified and unidentified LEAKAGE; d. Pressure Boundary LEAKAGE LEAKAGE through a nonisolable fault in a Reactor Coolant System (RCS) component body, pipe wall, or vessel wall.
LINEAR HEAT GENERATION RATE (LHGR)	The LHGR shall be the heat generation rate per unit length of fuel rod. It is the integral of the heat flux over the heat transfer area associated with the unit length.
LOGIC CHANNEL	A LOGIC CHANNEL is defined as a set of interconnecting hardware and software components that process the inputs to produce an identifiable trip signal or ESF actuation signal within a division. For the RPS, this includes the trip signal's associated TLU 2-out-of-4 voters, TLU bistable functions, operator controls, interlocks, data transmission, software, alarms, displays, division-of-sensors bypass, transmission lines out

(continued)

1.1 Definitions

LOGIC CHANNEL (continued)	to the OLU inputs, and transmission lines out to other division TLU inputs. Each ESF function will have two ESF LOGIC CHANNELs to include one of the ESF actuation signal's associated SLU 2-out-of-4 voters, SLU bistable functions, operator controls, interlocks, data transmission, software, alarms, displays, division-of-sensors bypass, EMS, and transmission lines out to the input of the 2-out-of-2 voters. The ESF actuation signal includes the system actuation signal generated in the SLU and all its associated device actuation signals out to the 2-out-of-2 voter.
LOGIC SYSTEM FUNCTIONAL TEST	A LOGIC SYSTEM FUNCTIONAL TEST shall be a test of all logic components (i.e., all relays and contacts, trip units, solid state logic elements, etc.) of a logic circuit, from as close to the sensor as practicable up to, but not including, the actuated device, to verify OPERABILITY. The LOGIC SYSTEM FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total system steps so that the entire logic system is tested.
MINIMUM CRITICAL POWER RATIO (MCPR)	The MCPR shall be the smallest critical power ratio (CPR) that exists in the core. The CPR is that power in the assembly that is calculated by application of the appropriate correlation(s) to cause some point in the assembly to experience boiling transition, divided by the actual assembly operating power.
MODE	A MODE shall correspond to any one inclusive combination of mode switch position, 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 when it is capable of performing its specified safety function(s) and when all necessary attendant instrumentation, controls, displays, normal or emergency electrical power, cooling and seal water, lubrication, and other auxiliary equipment that are required for the

(continued)

1.1 Definitions (continued)

OPERABLE-OPERABILITY (continued)	system, subsystem, train, component, or device to perform its specified safety function(s) are also capable of performing their related support function(s).
OUTPUT CHANNEL	An OUTPUT CHANNEL is defined as a set of interconnected components that process the inputs to produce and identifiable signal that deenergize scram solenoids, deenergize MSIV Isolation solenoids, or energize ESF device actuator within a division. For the RPS, this includes the signal's associated OLU, transmission lines, manual divisional trip and reset switches, trip logic output bypass switch, and scram pilot valve solenoid load drivers. For the MSIVs, this includes the signal's associated OLU, transmission lines, manual divisional isolation and reset switches, trip logic output bypass switch, and MSIV isolation pilot valve solenoid load drivers. For the ESF, this includes the signal's associated 2-out-of-2 voter, ESF Output Channel Bypass switch, transmission lines out to the ESF device actuator.
OUTPUT CHANNEL FUNCTIONAL TEST	An OUTPUT CHANNEL FUNCTIONAL TEST is the injection of simulated or actual signals into the OUTPUT CHANNEL to verify OPERABILITY.
PHYSICS TESTS	PHYSICS TESTS shall be those tests performed to measure the fundamental nuclear characteristics of the reactor core and related instrumentation. These tests are: a. Described in Chapter 14, Initial Test Program of the SSAR; b. Authorized under the provisions of 10 CFR 50.59; or c. Otherwise approved by the Nuclear Regulatory Commission.

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1.1 Definitions (continued)

PRESSURE AND TEMPERATURE LIMITS REPORT (PTLR)	The PTLR is the unit specific document that provides the reactor vessel pressure and temperature limits, including heatup and cooldown rates, for the current reactor vessel fluence period. These pressure and temperature limits shall be determined for each fluence period in accordance with Specification [5.x] Plant → 5.9.1.7 operation within these operating limits is addressed in LCO 3.4.8, "RCS Pressure and Temperature (P/T) Limits." → 9
RATED THERMAL POWER (RTP)	RTP shall be a total reactor core heat transfer rate to the reactor coolant of [3926] MWt.
REACTOR PUMP TRIP (RPT) SYSTEM RESPONSE TIME	The RPT SYSTEM RESPONSE TIME shall be that time interval from initial signal generation by the associated turbine stop valve limit switch or from when the turbine control valve hydraulic oil control oil pressure drops below the pressure switch setpoint, to trip of the inverters of the adjustable speed drives associated with the reactor internal pumps which are being tripped. 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.
REACTOR PROTECTION SYSTEM (RPS) RESPONSE TIME	The RPS RESPONSE TIME shall be that time interval from when the monitored parameter exceeds its RPS trip setpoint at the channel sensor until de-energization of the scram pilot valve solenoids. 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.
SENSOR CHANNEL	A SENSOR CHANNEL is defined as a set of interconnected hardware and software components that process an identifiable sensor signal within a division. This includes the sensor, data acquisition, signal conditioning, data transmission, software, alarms, displays, and all transmission lines in the division and between divisions associated with the sensor signal up to an input of a 2-out-of-4 voter or an input of a bistable function within the TLU or SLU.

(continued)

1.1 Definitions

SENSOR CHANNEL CALIBRATION	A SENSOR CHANNEL CALIBRATION is the adjustment, as necessary, of the SENSOR CHANNEL output such that it responds within the specified range and accuracy to known values of the parameter that the SENSOR CHANNEL monitors. The calibration may be performed by any series of sequential, overlapping, or total SENSOR CHANNEL steps so that the entire SENSOR CHANNEL is calibrated. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors shall consist of an inplace cross calibration of the sensing elements and normal calibration of the remaining adjustable devices in the channel. Whenever a sensing element is replaced, the next required inplace cross calibration consists of comparing the other sensing elements with the recently installed sensing element.
SENSOR CHANNEL CHECK	A SENSOR CHANNEL CHECK is the qualitative assessment, by observation, of a SENSOR CHANNEL's behavior during operation. This observation shall include comparison of this SENSOR CHANNEL's indication to other indications derived from independent SENSOR CHANNELS. This check shall be performed so as to examine as much of the SENSOR CHANNEL as practicable.
SHUTDOWN MARGIN (SDM)	SDM shall be the amount of reactivity by which the reactor is subcritical or would be subcritical assuming that: a. The reactor is xenon free; b. The moderator temperature is 20°C(68°F); and c. All control rods are fully inserted except for the control rod pair of highest reactivity worth, which is assumed to be fully withdrawn. With control rods not capable of being fully inserted, the reactivity worth of these control rods must be accounted for in the determination of SDM.

(continued)

1.1 Definitions

SHUTDOWN MARGIN (SDM) (continued)	NOTE: A control rod pair consists of two control rods which are connected to the same, shared scram accumulator. All control rods share an accumulator except for the center control rod which has its own accumulator.
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.
TURBINE BYPASS SYSTEM RESPONSE TIME	The TURBINE BYPASS SYSTEM RESPONSE TIME consists of two components: a. The time for initial movement of the main turbine stop valve or control valve until 80% of the turbine bypass capacity is established; and b. The time for initial movement of the main turbine stop valve or control valve until initial movement of the turbine bypass valve. 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.

Table 1.1-1 (page 1 of 1)
MODES

MODE	TITLE	REACTOR MODE SWITCH POSITION	AVERAGE REACTOR COOLANT TEMPERATURE (°F)
1	Power Operation	Run	NA
2	Startup	Refuel(a) or Startup/Hot Standby	NA
3	Hot Shutdown(a)	Shutdown	> 93 (200)
4	Cold Shutdown(a)	Shutdown	≤ 93 (200)
5	Refueling(b)	Shutdown or Refuel	NA

(a) Fuel in the reactor vessel with ~~All~~ reactor vessel head closure bolts fully tensioned.

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