3.18 DEDICATED/ALTERNATE SAFE SHUTDOWN CAPABILITY

Applicability

Applies to the operating status of the Dedicated/Alternate Shutdown Components not adequately controlled by other sections of these Technical Specifications.

Objectives

To ensure sufficient plant equipment is available to safely place the plant in hot shutdown, post fire, without making repairs and to permit proceeding to cold shutdown within 72 hours allowing for repairs, as necessary, following any fire emergency.

Specification

3.18.1 The following conditions shall be met when the RCS is >200°F:

a. The Dedicated Shutdown Diesel Generator must be operable with a fuel supply of 2,500 gallons in its day tank.

b. The 480V Dedicated Shutdown Bus must be capable of being energized from the Dedicated Shutdown Diesel Generator.

c. The Dedicated Shutdown Uninterruptable Power Supply (120 VAC output) shall be operable:

d. "A", "B", and "C" Steam Generator Power Operated Relief Valves (PORVs) must be operable to the extent that they can be manually operated, (following a post-fire repair if necessary) using the controllers located in the Secondary Control Panel.

e. One Pressurizer Power Operated Relief Valve (PORV) must be operable to the extent that it can be manually operated (following a post-fire repair if necessary) to reduce Reactor

Coolant System pressure using the post-fire Pressurizer PORV Control Station in the 4160V Switchgear Room.

f. Service Water Pump "D" must be capable of being powered from the 480V Dedicated Shutdown Bus.

g. Component Cooling Water Pump "A" is operable.

h. Charging Pump "A" is operable.

i. The following Dedicated Shutdown Instrumentation Systems shall be operable at either the Secondary Control Panel or the Charging Pump Room Panel:

1. "A", "B", and "C" Steam Generator Level indicators (wide range).

2. Pressurizer Pressure indication.

3. Pressurizer Level indication.

4. Reactor Coolant System Loop "A" wide range T_{HOT} indication.

5. Reactor Coolant System Loop "A" wide range T_{COLD} indication.

j. The Dedicated Shutdown Condensate Storage Tank level indication shall be operable on the Secondary Control Panel.

k. The following Dedicated Shutdown equipment on the Charging Pump Room Panel shall be operable:

1. Charging Pump "A" local/remote controls.

2. Component Cooling Water Pump "A" local/remote controls.

3. Service Water Pump "D" local/remote controls.

1. One Dedicated Shutdown Source Range Nuclear Instrumentation channel and one indicator shall be operable. This channel is normally de-energized to prevent damage during power operation.

3.18.2 With less than the specified equipment in 3.18.1 operable when the Reactor Coolant System (RCS) is >200°F, the equipment must be restored to an operable status within 14 days or prepare and submit a Special Report to the NRC within the following 30 days outlining the cause of the inoperability, the plan and schedule for restoring the equipment to an operable status, and any compensatory action being taken while the equipment is inoperable.

3.18.3 When the RCS is >200°F, sufficient equipment and materials shall be available onsite to allow completion of the following post-fire evolutions, as necessary, to support the achievement of cold shutdown, if necessary, within 72 hours post-fire:

a. Residual Heat Removal (RHR) Pump power cable post-fire repair.

b. RHR System flow indication post-fire repair.

c. RHR System temperature indication post-fire repair.

d. RHR flow control post-fire repair.

e. Steam Generator PORV control post-fire repair.

f. Pressurizer PORV control post-fire repair.

3.18.4 If any of the equipment and materials required to complete the post-fire repairs listed in paragraph 3.18.3 is not available on-site when the RCS is greater than 200°F, the equipment or materials

must be obtained and received on-site within 30 days, or prepare and submit a special report to the Commission within the following 30 days outlining the reason for the delay in obtaining the equipment or materials, the plan and schedule for obtaining the equipment or materials, and any compensatory action being taken while the equipment or materials is unavailable.

Basis

The OPERABILITY of the Dedicated/Alternate Safe Shutdown System ensures that a fire will not preclude achieving safe shutdown. The Dedicated/Alternate Safe Shutdown System instrumentation, control, and power circuits and transfer switches necessary to eliminate effects of the fire and allow operation of instrumentation, control and power circuits required to achieve and maintain a safe shutdown condition are independent of areas where a fire could damage systems normally used to shutdown the reactor. This capability is consistent with Appendix R to 10 CFR Part 50.

4.18 DEDICATED/ALTERNATE SAFE SHUTDOWN COMPONENT TESTS

Applicability

Applies to periodic testing and surveillance requirements for the Dedicated/Alternate Shutdown Components for which periodic testing and surveillance requirements are not specified by other sections of these Technical Specifications.

Objective

To verify that the Dedicated/Alternate Shutdown Components listed below will be available for service as necessary following a fire emergency.

Specification

4.18.1 Dedicated Shutdown Diesel Generator (DSDG)

4.18.1.1 A manually initiated start of the DSDG, followed by manual synchronization with other power sources and assumption of load up to 2000 KW, shall be conducted monthly.

4.18.1.2 The DSDG shall be inspected at each refueling.

4.18.1.3 The minimum fuel inventory of 2500 gallons in the DSDG day tank shall be verified weekly.

4.18.2 Dedicated Shutdown Diesel Generator Battery and Uninterruptable Power Supply Battery

4.18.2.1 The following checks shall be made on the Dedicated Shutdown Diesel Generator and Uninterruptable Power Supply (DSDG and UPS) batteries monthly:

a. A visual inspection for general battery condition.

b. Battery bank voltage check.

c. Cell electrolyte level.

4.18.2.2 The individual cell specific gravity of the DSDG and UPS batteries shall be checked at six-month intervals.

4.18.3 Dedicated/Alternate Shutdown Components

4.18.3.1 The following Dedicated/Alternate Shutdown Component tests shall be performed at each refueling:

a. "A", "B", and "C" Steam Generator PORVs shall be tested by placing the respective controllers in manual and cycling each Steam Generator PORV open then closed from the Secondary Control Panel.

b. Service Water Pump "D" power supply shall be transferred to the Dedicated Shutdown bus and then it shall be started and stopped in local control from the Charging Pump Room Panel.

c. Component Cooling Water Pump "A" shall be started and stopped in local control from the Charging Pump Room Panel.

d. Charging Pump "A" shall be started and stopped in local control from the Charging Pump Room Panel.

4.18.4 Calibration, testing, and checking of Dedicated Shutdown instrumentation channels shall be performed as specified in Table 4.18-1.

4.18.5 The equipment and materials necessary to complete the post-fire evolutions listed in paragraph 3.18.3 shall be inventoried annually.

TABLE 4.18-1

MAXIMUM FREQUENCIES FOR CHECKS, CALIBRATIONS, AND TESTS

OF DEDICATED SHUTDOWN INSTRUMENT CHANNELS

	CHANNEL DESCRIPTION	CHECK	CAL	TEST	REMARKS
1.	Dedicated Shutdown Nuclear Source Range	NA	NA	R	Normally De-Energized to Prevent Detector Damage at Power
2.	Dedicated Shutdown Condensate Storage Tank Level	M	R	NA	Secondary Control Panel Only
3.	Dedicated Shutdown "A", "B", and "C" Steam Generator Wide Range Levels	M	R	NA	Secondary Control Panel and Charging Pump Room Panel
4.	Dedicated Shutdown Pressurizer Pressure	M	R	NA	Secondary Control Panel and Charging Pump Room Panel
5.	Dedicated Shutdown Pressurizer Level	M	R	NA	Secondary Control Panel and Charging Pump Room Panel
6.	Dedicated Shutdown Loop "A" Wide Range T_{HOT}	M	R	NA	Secondary Control Panel and Charging Pump Room Panel
7.	Dedicated Shutdown RCS Loop "A" Wide Range T_{COLD}	M	R	NA	Secondary Control Panel and Charging Pump Room Panel