PSNH

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United States Nuclear Regulatory Commission
Washington, DC 20555

Attention: Mr. George W. Knighton, Chief
Licensing Branch No.3
Division of Licensing

References: a) Construction Permits CPPR-135 and CPPR-136, Docket Nos. 50-443 and 50-444.

b) USNRC letter, dated April 23, 1985, "Request for Additional Information", G.W. Knighton to R.J. Harrison.

Subject: Response to Request for Additional Information

Dear Sir:

In answer to your Request for Additional Information forwarded by Reference b, enclosed please find our response to each of the concerns.

On April 25, 1985, a telecon between our Messrs. W. Hall, D. McLain and G. Kann, and your Messrs. V. Nerses, R. Becker, and R. Gruel discussed each of our responses in detail. The enclosure represents the results of that telecon.

Where necessary, appropriately marked up pages of the FSAR are enclosed with the responses. These markups of the FSAR will be included in a future amendment to the FSAR.

Very truly yours,

George S. Thomas

Enclosure

cc: ASLB Service List

3001
1/1

INFORMATION REQUESTED

640.50 1.j(7) 1.j(20) The response to these items should be modified to address the leak detection systems associated with the equipment and floor drainage systems (FSAR Subsection 9.3.3).

RESPONSE

1.j(7) Leak detection systems used to detect failures in ECCS and containment recirculation spray systems located outside containment will be demonstrated operable during liquid waste system test (Table 14.2-4, Item 15).

1.j(20) Instrumentation used to detect external and internal conditions that could result from such sources as fluid system piping failures will be demonstrated operable during liquid waste system test (Table 14.2-4, Item 15).

TABLE 14.2-4
(Sheet 17 of 37)

15. LIQUID WASTE SYSTEM

Objective

To demonstrate the proper operation of liquid waste system components.

Plant Conditions/Prerequisites

Prior to initial core loading.

Test Method

Tests will be performed to the extent practical to verify the proper operation of system components, instrumentation, and controls. Isolation of liquid waste will be demonstrated.

Acceptance Criteria

Flow paths to system components have been demonstrated.

The liquid waste system operates in accordance with FSAR Subsection 11.2.

The equipment and floor drainage system operates in accordance with FSAR Subsection 9.3.3.

Tests will be performed to verify the proper operation of the equipment and floor drainage system sump/tank high level alarms.

INFORMATION REQUESTED

640.50 1.n(16) The ECCS Performance Test (FSAR Table 14.2-3, Item 8) should be modified to include testing of the RWST heating system.

RESPONSE

Refueling water storage tank (RWST) cooling system is not used at Seabrook. The RWST heating system will be demonstrated operable during containment spray system test (Table 14.2-3, Item 12)

TABLE 14.2-3
(Sheet 14 of 46)

12. CONTAINMENT SPRAY SYSTEM

Objective

To verify the proper operation of the containment spray system.

Plant Conditions/Prerequisites

Prior to initial core loading.

Test Method

Tests will be performed to verify proper operation of all containment spray system components and to determine pump head-flow characteristics. Air flow tests of the containment spray nozzles will verify that the nozzles are not plugged. 44

Acceptance Criteria

The containment spray system operates in accordance with safety analysis requirements of FSAR Subsection 6.2.2.2. 44

Tests will be performed to verify proper operation of the Refueling Water Storage Tank (RWST) heating system.

INFORMATION REQUESTED

640.51 4.t The Natural Circulation Test (FSAR Table 14.2-5, Item 22) should either reference or include a description of testing described in parts 2 and 4 of the response to this item.

RESPONSE

The Natural Circulation Test (FSAR Table 14.2-5, Item 22) will be revised to include a description of testing described in parts 2 and 4 of the response to this item.

TABLE 14.2-5
(Sheet 25 of 53)

22. NATURAL CIRCULATION TEST

Objective

To verify the ability of the reactor coolant system to remove heat by means of natural circulation.

Plant Conditions/Prerequisites

The plant is critical at low power.

Test Method

See Insert A

~~With plant at steady state low power conditions (approximately 3%), the reactor coolant pumps will be tripped. The length of time required to stabilize natural circulation and the core flow distribution will be demonstrated. Data will be collected during the test to verify simulator modeling.~~ 44

Acceptance Criteria

Natural circulation is established and maintained as indicated by stable temperature indication. 44

INSERT A

At hot no-flow conditions (in conjunction with rod drop testing, Table 14.2-5 Item 7) the pressurizer heaters will be turned off and data will be collected to determine a depressurization rate.

With the plant at steady state low power conditions (approximately 3%), the reactor coolant pumps will be tripped. This test will determine the length of time necessary to stabilize natural circulation and will demonstrate the reactor coolant flow distribution by obtaining in-core thermocouple and fixed in-core flux detector maps. Auxiliary spray will be used to partially depressurize the primary plant, and the depressurization rate will be determined. At reduced pressure the effect of changes in charging flow and steam flow on subcooling will be verified.

Data will be collected during the test to verify simulator modeling.

INFORMATION REQUESTED

640.55 The Station Blackout Test (FSAR Table 15.2-5, Item 39) should be modified to state that the loss of offsite power will be maintained long enough for plant systems to stabilize (at least 30 minutes or longer).

RESPONSES

The Station Blackout Test (FSAR Table 14.2-5, Item 39) will be revised to state that the loss of offsite power will be maintained long enough for plant systems to stabilize (at least 30 minutes or longer).

TABLE 14.2-5
(Sheet 42 of 53)

39. STATION BLACKOUT TEST

Objective

To demonstrate starting of emergency diesels and proper sequencing of loads following a main generator trip without an available source of offsite power.

Plant Conditions/Prerequisites

The plant is at a stable power level of equal to or greater than 10% power.

Test Method

Generator output breakers will be tripped resulting in a reactor trip with no offsite power available. The starting of the emergency diesel generators and overall plant response will be monitored.

Acceptance Criteria

The plant responds to the concurrent trip and loss of offsite power in accordance with the criteria shown in FSAR Section 15.2.6.

48

The loss of offsite power will be maintained long enough for plant systems ta stabilize (at least 30 minutes or longer).

INFORMATION REQUESTED

640.63 The response addresses operability of the uninterruptable power supply (UPS) units at minimum DC voltage input. The response should be modified to demonstrate proper operation of the safety related DC loads (FSAR Table 8.3-5) at the minimum battery terminal voltage.

RESPONSE

DC operated components have been specified to have an operating range of 90 to 140 vdc (exceptions are the vital instrument bus inverters and reactor trip switchgear with 105 vdc on the minimum operating voltage). To insure that adequate voltage is available at the terminal of the devices, calculations have been performed on worst case circuits, i.e. circuits with longest circuit lengths taking into consideration voltage drops and minimum battery terminal voltage available. To verify these calculations, actual terminal voltages will be obtained during a test of sample circuits (maximum of 3 worst case circuits). This test will be performed to predict the terminal voltage that will be present at the mimimum battery terminal voltage available. The result of this calculation should satisfy the specified minimum voltage requirement of the component.

By proving that worst case circuits will operate satisfactorily at minimum battery voltage, we can safely assure that all other circuits will operate properly under similar voltage conditions.

FSAR Table 14.2-3 Item 31 will be revised to include this testing.

TABLE 14.2-3
(Sheet 33 of 46)

31. 125 VDC DISTRIBUTION SYSTEM

Objective

To demonstrate the proper operation of the 125 vdc distribution system.

Plant Conditions/Prerequisites

Prior to loss of offsite power tests.

Test Methods

Tests will be performed to demonstrate operation of instrumentation and alarms, and that actual total system amperage loads are in agreement with design loads. A discharge test of each battery bank will be conducted. System interlocks will be verified to demonstrate proper operation under accident conditions. The independence of redundant power supplies and load groups will be verified.

Acceptance Criteria

The dc power system operates in accordance with the requirements of FSAR Section 8.3.2.

Test will be performed on selected circuits to ensure proper operation of the safety related DC loads at the minimum battery terminal voltage.

INFORMATION REQUESTED

640.65 The following test abstracts should be modified to provide adequate acceptance criteria:

(1) FSAR Table 14.2-3, Items 22, 23, 27, and 28.

(2) FSAR Table 14.2-4, Items 19, 20, 21, and 22.

RESPONSE

The test abstracts listed above were revised in FSAR Amendment 44 to provide adequate acceptance criteria.