c. Any one of the following conditions of inoperability may exist during the time intervals specified. The reactor shall be placed in the hot shutdown condition if operability is not restored within the time specified, and it shall be placed in the cold shutdown condition if operability is not restored within an additional 48 hours.

1. ONE of the operable charging pumps may be removed from service provided two pumps are again operable within 24 hours.

2. ONE boric acid transfer pump may be out of service provided both pumps are again operable within 24 hours.

3. ONE channel of heat tracing may be out of service provided it is restored to operable status within 48 hours.

4. Two boric acid transfer pumps may be out of service for one (1) hour between the period of 3:30 p.m. on November 14, 1980 until 4:30 p.m. on November 14, 1980. 32

Basis

The Chemical and Volume Control System provides control of the Reactor Coolant System boron inventory. This is normally accomplished by using any one of the three charging pumps in series with any one of the two boric acid transfer pumps. An alternate method of boration will be use of the charging pumps directly from the Refueling Water Storage Tank. A third method will be to use the safety injection pumps. There are two sources of borated water available for injection through 3 different paths.

(1) The boric acid transfer pumps can deliver the boric acid tank contents to the suction of the charging pumps.

(2) The charging pumps can take suction directly from the Refueling Water Storage Tank containing a concentration of 1950 ppm boron solution. Reference is made to Specification 3.3.a.

WPS Change No.	WPS Amend. No.	Date	Pages Submitted	NRC Amend. No.	Date	Pages Removed	Pages Inserted
-	25A	7/18/77	TS 4.2-1 thru TS 4.2-8, Table TS 4.2-1, Table TS 4.2-2, Table TS 4.2-3, Table TS 4.2-4, Table TS 4.2-5			(Superceded by WPS Amend. No. 25B)	
-	29	8/4/77 7/20/77	TS 1.1-5, TS 3.5-1, TS 3.5-5, Table TS 3.5-1, Table 3.5-5, TS 4.6-1 thru TS 4.6-3			(Superceded by WPS Amendment No. 29A)	
-	30	10/28/77	TS 6-1 thru TS 6-27	19	1/25/78	(Same as in WPS Amend. No. 24)	
-	31	11/14/77	TS 5.4-1, TS 3.8-2 thru TS 3.8-4	26	3/6/79	TS 3.8-2, TS 3.8-3, TS 3.8-4, TS 5.4-1	TS 3.8-2, TS 3.8-3, TS 3.8-4, TS 5.4-1
-	32	12/15/77	TS 3.15-1 thru TS 3.15-4 Table TS 3.15-1, Table TS 3.15-2 TS 4.15-1 thru TS 4.15-4 TS 6-2, TS 6-2a, TS 6-9, TS 6-10	20	3/3/78	TS ii, TS 6-2, TS 6-9, TS 6-10	TS ii, TS 6-2, TS 6-9, TS 6-10, TS 6.2a TS 3.15-1 thru TS 3.15-4, Table 3.15-1, Table 3.15-2, TS 4.15-1 thru 4.15-4
-	33	3/17/78	TS 3.10-5, TS 3.10-15, Fig. TS 3.10-3	21	5/25/78	TS 3.10-5, TS 3.10-15, Fig. TS 3.10-3, TS 3.10-7c	TS 3.10-5, TS 3.10-15, Fig. TS 3.10-3, TS 3.10-7c
-	34	3/20/78	TS 3.1-3, TS 3.1-7, Table TS 4.1-1 (Page 1, 3)	22	9/26/78	TS 3.1-3, TS 3.1-7, Table TS 4.1-1 (Pages 1, 3)	TS 3.1-3, TS 3.1-7, Table TS 4.1-1 (Pages 1, 3)

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-	35	10/20/78	TS 3.1-2 thru TS 3.1-4, TS 4.5-3 thru 4.5-5			(Revised 6/15/79)	
-	36	11/10/78	TS 1.1-5, Table TS 3.14-1, Table TS 3.15-1, TS 4.14-2, TS 4.14-3a, TS 4.15-2	25	1/19/79	TS 1.1-5, Table TS 3.14-1,(Pages 1 thru 11) Table TS 3.15-1, TS 4.14-2, TS 4.14-3a, TS 4.15-2	TS 1.1-5, Table TS 3.14-1,(Pages 1 thru 11 Table TS 3.15-1, TS 4.14-2, TS 4.14-3a, TS 4.15-2
-	N/A	N/A	N/A	23	12/12/78	(Operating License Page 3 Item C. (3))	
-	37	2/16/79	TS 6-5, TS 6-7, TS 6-8, TS 6-11, TS 6-12, TS 6-26, ES 5.1-1, ES 5.2-1	27	3/1/79	TS 6-5, TS 6-7, TS 6-8, TS 6-11, TS 6-12, TS 6-26, ES 5.1-1, ES 5.2-1	TS 6-5, TS 6-7, TS 6-8, TS 6-11, TS 6-12, TS 6-26, ES 5.1-1, ES 5.2-1
-	25B	2/9/79	TS 4.2-1 thru 4.2-8, Table TS 4.2-1, Table TS 4.2-2, Table TS 4.2-3, Table TS 4.2-4, Table TS 4.2-5, TS 4.4-3, TS 4.4-5, TS 4.4-8, TS 4.4-9, TS 4.5-2, TS 4.5-3, TS 4.5-4, TS 4.7-1, TS 4.8-1, TS 4.8-2, TS 4.1-3			(Superceded by WPS Amendment No. 25C)	
-	N/A	N/A	N/A	28	4/10/79	(Operating License Page 3 Item C. (4))	
-	38	4/16/79	Table TS 4.1-3	30	5/7/79	Table TS 4.1-3	Table TS 4.1-3

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-	39	4/20/79	TS 3.5-4, Table TS 3.5-1 Table TS 3.5-3	29	4/27/79	TS 3.5-4, Table TS 3.5-1 Table TS 3.5-3	TS 3.5-4, Table TS 3.5-1, Table TS 3.5-3
-	35	6/15/79	TS 3.1-1, TS 3.1-2, TS 3.1-2a, TS 3.1-2b, TS 4.5-3, TS 4.5-4, TS 4.5-5				
-	40	10/9/79	Included in WPS Amend. No. 40a			(Superceded by WPS Amend. No. 40a)	
-	40a	4/16/80	Table TS 3.15-2, TS 3.15-2, Table TS 3.15-1, TS 6-2 TS 4.15-1 thru TS 4.15-3, Operating License (Page 3)				
-	41	11/16/79	TS 3.5-2, TS 4.4-5, TS 4.4-6, TS 4.6-1, TS 4.12-1, TS 4.12-2, TS 6-17	33	4/8/81	TS 3.5-2, TS 3.8-2, TS 4.4-5, TS 4.4-6, TS 4.6-1, TS 4.12-1, TS 4.12-2, TS 6-17	TS 3.5-2, TS 3.8-2, TS 4.4-5, TS 4.4-6, TS 4.6-1, TS 4.12-1, TS 4.12-2, TS 6-17
-	42	9/8/80	TS 6-1, TS 6-10, TS 6-12, TS 6-3 thru TS 6-7, Fig. TS 6.2-1 (TS 6-26), Fig. TS 6.2-2 (TS 6-27)			(Superceded by WPS Amend. No. 42a)	
-	42a	12/9/80	TS 6-1, TS 6-10, TS 6-12, TS 6-3 thru TS 6-8, Fig. TS 6.2-1 (TS 6-26), Fig. TS 6.2-2 (TS 6-27)				
-	43	1/20/81	TS 3.2-2	32	11/14/80	TS 3.2-2	TS 3.2-2

WPS Amend. No.	Date	Pages Submitted	NRC Amend. No.	Date	Pages Removed	Pages Inserted
44	1/29/81	Table TS 4.1-3	31	3/9/81	Table TS 4.1-3	Table TS 4.1-3
45	2/20/81	TS 2.3-1, TS 3.1-2, TS 3.1-2a, TS 3.4-1, TS 3.4-2, TS 3.4-3, TS 3.5-2, TS 4.10-1, Table TS 4.10-2, Table TS 4.10-1 (Pages 1 and 5), Table 4.1-3, Deletion of Appendix B				
29A	1/28/81	TS 1.1-5, TS 3.5-1, TS 3.5-5, TS 3.5-6, Table TS 3.5-1 (Pages 1 and 2), Table TS 3.5-5, TS 4.6-1, TS 4.6-2, TS 4.6-3			(Superceded by WPS Amendment No. 29B)	
25C	5/1/81	Table TS 4.1-3, TS 4.2-1 through TS 4.2-13, Table TS 4.2-1 (Pages 1 through 10), Table TS 4.2-2 (Pages 1 through 9), Table TS 4.2-3 (Pages 1 through 4), Table TS 4.2-4 (Pages 1 through 5), Table TS 4.2-5 (Pages 1 through 16), Table TS 4.2-6, TS 4.4-3, TS 4.4-5, TS 4.4-8, TS 4.4-9, TS 4.5-2, TS 4.5-3, TS 4.5-4, TS 4.7-1, TS 4.8-1, TS 4.8-2				
29B	5/1/81	TS 1.1-5, TS 3.5-1, TS 3.5-5, TS 3.5-6, Table TS 3.5-1 (Pages 1 and 2), Table TS 3.5-5, TS 4.6-1 through TS 4.6-4				

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Basis

Instrumentation has been provided to sense accident conditions and to initiate operation of the engineered safety features.[1] Section 2.3 of these specifications describes the limiting safety system settings for the protective instrumentation.

Safety Injection

Safety injection can be activated automatically or manually to provide additional water to the reactor coolant system or to increase the concentration of boron in the coolant.

Safety injection is initiated automatically by (1) low pressurizer pressure, (2) low main steam line pressure in either loop and (3) high containment pressure. Protection against a Loss-of-Coolant Accident is primarily through signals (1) and (3). Protection against a Steam Line Break is primarily by means of signal (2). 33

Manual actuation is always possible. Safety Injection signals can be blocked during those operating modes where they are not "required" for safety and where their presence might inhibit operating flexibility; they are generally restored automatically on return to the "required" operating mode.

6. Direct communication between the control room and the operating floor of the containment shall be available whenever changes in core geometry are taking place.

7. Heavy loads, greater than the weight of a fuel assembly, will not be transported over or placed in either spent fuel pool when spent fuel is stored in that pool. Placement of additional fuel storage racks is permitted, however, these racks may not traverse directly above spent fuel stored in the pools.

8. The containment ventilation and purge system, including the radiation monitors which initiate containment ventilation isolation, shall be tested and verified to be operable immediately prior to a refueling operation.

9. A. The spent fuel pool sweep system, including the charcoal adsorbers, shall be operating during fuel handling and when any load is carried over the pool if irradiated fuel in the pool has decayed less than 30 days. If the spent fuel pool sweep system, including the charcoal adsorber, is not operating when required, fuel movement shall not be started (any fuel assembly movement in progress may be completed). 33

to this value.

c. Residual Heat Removal System

1. Those portions of the Residual Heat Removal System external to the isolation valves at the containment shall be hydrostatically tested at 350 psig at each major refueling outage, or they shall be tested during their use in normal operation at least once between successive major refueling outages.

2. The total leakage from either training shall not exceed two gallons per hour. Visible leakage that cannot be stopped at test conditions shall be suitably measured to demonstrate compliance with this Specification.

3. Any repairs necessary to meet the specified leak rate shall be accomplished within seven days of resumption of power operation.

d. Shield Building Ventilation System

1. At least once per operating cycle or once every 18 months whichever occurs first, the following conditions shall be demonstrated:

   A. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 10 inches of water and the pressure drop across any HEPA filter bank is less than 4 inches of water at the system design flow rate (+10%).

   B. Automatic initiation of each train of the system.

   C. Operability of heaters at rating and the absence of defects by visual inspection.

2. A. The in-place DOP test for HEPA filters shall be performed (1) at least once per 18 months and (2) following painting, fire, or chemical release in any ventilation zone communicating with the system.

   B. The laboratory tests for activated carbon in the charcoal filters shall be performed (1) at least once per 18 months for filters in a standby status or after 720 hours of filter operation, and

33

following painting, fire or chemical release in any ventilation zone communicating with the system. 33

C. Cold DOP testing shall be performed after each complete or partial replacement of a HEPA filter bank or after any maintenance on the system that could affect the HEPA bank bypass leakage. 33

D. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of a charcoal adsorber bank or after any maintenance on the system that could affect the charcoal adsorber bank bypass leakage. 33

E. Each train shall be operated with the heaters on at least 10 hours every month. 33

3. Perform an air distribution test on the HEPA filter bank after any maintenance or testing that could affect the air distribution within the systems. The test shall be performed at design flow rate (± 10%). The results of the test shall show the air distribution is uniform within ±20%.* 33

4. Each train shall be determined to be operable at the time of its periodic test if it produces measurable indicated vacuum in the annulus within two minutes after initiation of a simulated safety injection signal and obtains equilibrium discharge conditions that demonstrate the Shield Building leakage is within acceptable limits.

e. Auxiliary Building Special Ventilation System

1. Period tests of the Auxiliary Building Special Ventilation System, including the door interlocks, shall be performed in accordance with Specifications 4.4.d.1 through 4.4.d.3 except for Specification 4.4.d.2.E. 33

2. Each train of Auxiliary Building Special Ventilation System shall be operated with the heaters on at least 15 minutes every month.

* See Note p.p. TS 4.12-2

4.6 PERIODIC TESTING OF EMERGENCY POWER SYSTEM

Applicability

Applies to periodic testing and surveillance requirements of the emergency power system.

Objective

To verify that the emergency power sources and equipment are operable.

Specification

The following tests and surveillance shall be performed:

a. Diesel Generators

1. Manually-initiated start of each diesel generator, and assumption of load by the diesel generator. This test shall be conducted monthly in accordance with the intent of Paragraph 6.4.1 and 6.4.3 of IEEE 387-1977. 33

2. Automatic start of each diesel generator, load shedding, and restoration to operation of particular vital equipment, all initiated by a simulated loss of all normal a-c station service power supplies together with a simulated safety injection signal. This test will be conducted at each refueling interval to assure that each diesel generator will start and assume required loads to the extent possible within one minute. During this test a checkout of emergency lighting will be performed.

3. Each diesel generator shall be inspected at each major refueling outage.

4. Diesel generator load rejection test in accordance with IEEE 387-1977, section 6.4.5 shall be performed at least once per 18 months. 33

b. Station Batteries

1. The voltage of each cell shall be measured to the nearest hundredth volt each month. An equalizing charge shall be applied if the lowest cell in the battery falls below 2.13 volts. The temperature and specific gravity of a pilot cell in each battery shall be measured.

4.12 SPENT FUEL POOL SWEEP SYSTEM

Applicability

Applies to testing and surveillance requirements for the spent fuel pool sweep system in Specifications 3.8.a.9.

Objective

To verify the performance capability of the spent fuel pool sweep system.

Specification

a. At least once per operating cycle or once every 18 months, whichever occurs first, the following conditions shall be demonstrated:

   1. Pressure drop across the combined HEPA filters and charcoal adsorber banks is less than 10 inches of water and the pressure drop across any HEPA bank is less than 4 inches of water at the system design flow rate (±10%).

   2. Automatic initiation of each train.

b. 1. The in-place DOP test for HEPA filters shall be performed (1) at least once per 18 months and (2) following painting, fire, or chemical release in any ventilation zone communicating with the system.

   2. The laboratory tests for Activated Carbon in the charcoal filters shall be performed (1) at least once per 18 months for filters in a standby status or after 720 hours of filter operation, and (2) following painting, fire, or chemical release in any ventilation zone communicating with the system. 33

   3. Cold DOP testing shall be performed after each complete or partial replacement of a HEPA filter bank or after any maintenance on the system that could affect the HEPA bank bypass leakage.

4. Halogenated hydrocarbon testing shall be performed after each complete or partial replacement of a charcoal adsorber bank or after any maintenance on the system that could affect the charcoal adsorber bank bypass leakage. 33

c. Perform an air distribution test on the HEPA filter bank after any maintenance or testing that could affect the air distribution within the system. The test shall be performed at design flow rate (±10%). 33 The results of the test shall show the air distribution is uniform within ±20%.*

* This note applies here and also to 4.4.d.3 on p.p. TS 4.4-6.

In WPS letter of August 25, 1976 to Mr. Al Schwencer (NRC) from Mr. E. W. James, we relayed test results for flow distribution for tests performed in accordance with ANSI N510-1975. This standard refers to flow distribution tests performed upstream of filter assemblies. Since the test results upstream of filters were inconclusive due to high degree of turbulence, tests for flow distribution were performed downstream of filter assemblies with acceptable results (within 20%). The safety evaluation attached to Amendment 12 references our letter of August 25, 1976 and acknowledges acceptance of the test results.

steady state conditions greater than or equal to one percent; a calculated reactivity balance indicating a shutdown margin less conservative than specified in the technical specifications; short-term reactivity increases that correspond to a reactor period of less than 5 seconds or, if subcritical, an unplanned reactivity insertion of more than 50¢; or occurrence of any unplanned criticality. 33

(5) Failure of malfunction of one or more components which prevents or could prevent, by itself, the fulfillment of the functional requirements of system(s) used to cope with accidents analyzed in the SAR.

(6) Personnel error or procedural inadequacy which prevents or could prevent, by itself, the fulfillment of the functional requirements of systems required to cope with accidents analyzed in the SAR.

Note: For items 6.9.2.a(5) and 6.9.2.a(6) reduced redundancy that does not result in a loss of system function need not be reported under this section but may be reportable under items 6.9.2.b(2) and 6.9.2.b(3) below.

(7) Conditions arising from natural or man-made events that, as a direct result of the event require plant shutdown, operation of safety systems, or other protective measures required by technical specifications.

(8) Errors discovered in the transient or accident analyses or in the methods used for such analyses as described in the safety analysis report or in the bases for the technical specifications