

3/4.7 PLANT SYSTEMS

3/4.7.1 PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 Two independent plant service water system loops shall be OPERABLE with one loop in operation. Each loop shall be comprised of:

- a. Two plant service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety related equipment.
- b. Service water supply header discharge water temperature of 76°F* or less.

The intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 39°F; Division I shall have 7 heaters in operation in each intake structure and Division II shall have 7 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

- a. With one less than the required number of OPERABLE plant service water pumps in one loop, restore the inoperable pump to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- b. With one less than the required number of OPERABLE plant service water pumps in each loop, restore at least one inoperable pump to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- c. With two less than the required number of OPERABLE plant service water pumps in one loop or with one plant service water loop otherwise inoperable, restore at least one pump to OPERABLE status within 72 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- d. With two less than the required number of OPERABLE plant service water pumps in one loop and one less than the required number of plant service water pumps in the other loop, restore at least one of the two inoperable pumps in the same loop to OPERABLE status within 12 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.
- e. With two plant service water system loops OPERABLE and the service water supply header discharge water temperature continuously exceeding 76°F* for any 8 hour period, within one hour initiate action to be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.

PLANT SYSTEMS

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - OPERATING

LIMITING CONDITIONS FOR OPERATION

3.7.1.1 (Continued)

ACTION:

- f. With less than the required Division I and Division II heaters OPERABLE within one hour initiate action to be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

SURVEILLANCE REQUIREMENTS

4.7.1.1.1 The plant service water system shall be demonstrated OPERABLE.

- a. By verifying the plant service water supply header discharge water temperature to be less than or equal to 76°F*.
1. At least once per 24 hours, and
 2. At least once per 4 hours when the last recorded water temperature is greater than or equal to 70°F, and
 3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 74°F.
- b. At least once per 12 hours by verifying the water level at the service water pump intake is greater than or equal to elevation 233.1 feet.
- c. At least once per 31 days by verifying that each valve - manual, power-operated, or automatic, servicing safety-related equipment that is not locked, sealed or otherwise secured in position - is in its correct position.
- d. At least once per 18 months during shutdown, by verifying:
1. After a simulated test signal, each automatic valve servicing nonsafety-related equipment actuates to its isolation position.
 2. After a simulated test signal, each service water system cross connect and pump discharge valve actuates automatically to its isolation position.
 3. For each service water pump, after a simulated test signal, the pump starts automatically and the associated pump discharge valve opens automatically, in order to supply flow to the system safety-related components.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
66
67
68
69
70
71
72
73
74
75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100

PLANT SYSTEMS

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2 Two independent plant service water system loops shall be OPERABLE with one loop in operation. Each loop shall be comprised of:

- a. Two OPERABLE plant service water pumps capable of taking suction from Lake Ontario and transferring the water to the associated safety-related equipment.
- b. Service water supply header discharge water temperature of 76°F* or less.

The intake deicing heater system shall be OPERABLE and in operation when intake tunnel water temperature is less than 39°F; Division I shall have 7 heaters in operation in each intake structure and Division II shall have 7 heaters in operation in each intake structure.

APPLICABILITY: OPERATIONAL CONDITIONS 4 and 5.

ACTION:

- a. With one less than the required number of OPERABLE plant service water pumps in one loop, restore the inoperable pump to OPERABLE status within 30 days or declare the associated safety-related equipment inoperable and take ACTIONS required by Specifications 3.5.2 and 3.8.1.2.
- b. With one less than the required number of OPERABLE plant service water pumps in each loop, restore at least one inoperable pump to OPERABLE status within 7 days or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- c. With two less than the required number of OPERABLE plant service water pumps in one loop, restore at least one inoperable pump to OPERABLE status within 72 hours or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- d. With two less than the required number of OPERABLE plant service water pumps in one loop and one less than the required number of plant service water pumps in the other loop, restore at least one of the two inoperable pumps in the same loop to OPERABLE status within 12 hours or declare the associated safety-related equipment inoperable and take ACTIONS required by Specification 3.5.2 and 3.8.1.2.
- e. With the service water supply header discharge temperature exceeding 76°F* suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel.

* Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.



PLANT SYSTEMS

PLANT SERVICE WATER SYSTEM

PLANT SERVICE WATER SYSTEM - SHUTDOWN

LIMITING CONDITIONS FOR OPERATION

3.7.1.2 (Continued)

ACTION:

- f. With less than the required Division I and Division II heaters OPERABLE, suspend CORE ALTERATIONS and all operations that have a potential for draining the reactor vessel.

SURVEILLANCE REQUIREMENTS

4.7.1.2.1 The plant service water system shall be demonstrated OPERABLE:

- a. By verifying the plant service water supply header discharge water temperature to be less than or equal to 76°F*:
1. At least once per 24 hours, and
 2. At least once per 4 hours when the last recorded water temperature is greater than or equal to 70°F, and
 3. At least once per 2 hours when the last recorded water temperature is greater than or equal to 74°F.
- b. At least once per 12 hours by verifying the water level at the service water pump intake is greater than or equal to elevation 233.1 feet.
- c. At least once per 31 days by verifying that each valve - manual, power-operated, or automatic, servicing safety-related equipment that is not locked, sealed, or otherwise secured in position - is in its correct position.
- d. At least once per 18 months during shutdown, by verifying:
1. After a simulated test signal, each automatic valve servicing nonsafety-related equipment actuates to its isolation position.
 2. After a simulated test signal, each service water system cross connect and pump discharge valve actuates automatically to its isolation position, and
 3. For each service water pump, after a simulated test signal, the pump starts automatically and the associated pump discharge valve opens automatically, in order to supply flow to the system safety-related components.

- * Prior to achieving power levels greater than 50% of Rated Thermal Power during the startup test program, the service water supply header discharge temperature shall be 77°F or less.

