

## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS

4.5.1 The emergency core cooling systems shall be demonstrated OPERABLE by:

- a. At least once per 31 days:
  1. For the CSS, the LPCI system, and the HPCI system:
    - a) Verifying that the system piping from the pump discharge valve to the system isolation valve is filled with water by:
      1. Venting at the high point vents
      2. Performing a CHANNEL FUNCTIONAL TEST of the condensate transfer pump discharge low pressure alarm instrumentation.
    - b) Verifying that each valve, manual, power-operated, or automatic, in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct\*\* position.
  2. For the CSS, performance of a CHANNEL FUNCTIONAL TEST of the core spray header  $\Delta P$  instrumentation.
  3. For the LPCI system, verifying that at least one LPCI system subsystem cross-tie valve is closed with power removed from the valve operator.
  4. For the HPCI system, verifying that the pump flow controller is in the correct position.
- b. Verifying that, when tested pursuant to Specification 4.0.5:
  1. The two CSS pumps in each subsystem together develop a total flow of at least 6350 gpm against a test line pressure of  $\geq 282$  psig, corresponding to a reactor vessel steam dome pressure of  $\geq 105$  psig.
  2. Each LPCI pump in each subsystem develops a flow of at least 12,200 gpm against a test line pressure of  $\geq 222$  psig, corresponding to a reactor vessel to primary containment differential pressure  $\geq 20$  psid.
  3. The HPCI pump develops a flow of at least 5000 gpm against a test line pressure of  $> 1266$  psig when steam is being supplied to the turbine at 920, +140, - 20 psig.\*
- c. At least once per 18 months:
  1. For the CSS, the LPCI system, and the HPCI system, performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence and verifying that each automatic valve in the flow path actuates to its correct position. Actual injection of coolant into the reactor vessel may be excluded from this test.

\*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

\*\*Except that an automatic valve capable of automatic return to its ECCS position when an ECCS signal is present may be in position for another mode of operation.

## EMERGENCY CORE COOLING SYSTEMS

### SURVEILLANCE REQUIREMENTS (Continued)

2. <sup>#</sup> For the HPCI system, verifying that the system develops a flow of at least 5000 gpm against a test line pressure of  $210 \pm 15$  psig when steam is being supplied to the turbine at  $150 \pm 15$  psig.\*
  3. Performing a CHANNEL CALIBRATION of the CSS header  $\Delta P$  instrumentation and verifying the setpoint to be  $\leq 1$  psid.
  4. Verifying that the suction for the HPCI system is automatically transferred from the condensate storage tank to the suppression chamber on a condensate storage tank water level - low signal and on a suppression chamber - water level high signal.
  5. Performing a CHANNEL CALIBRATION of the condensate transfer pump discharge low pressure alarm instrumentation and verifying the low pressure alarm setpoint to be  $\geq 113$  psig.
- d. For the ADS:
1. At least once per 31 days, performing a CHANNEL FUNCTIONAL TEST of the accumulator backup compressed gas system low pressure alarm system.
  2. At least once per 18 months:
    - a) Performing a system functional test which includes simulated automatic actuation of the system throughout its emergency operating sequence, but excluding actual valve actuation.
    - b) Manually\*\* opening each ADS valve when the reactor steam dome pressure is greater than or equal to 100 psig\* and observing that either:
      - 1) The control valve or bypass valve position responds accordingly, or
      - 2) There is a corresponding change in the measured steam flow.
    - c) Performing a CHANNEL CALIBRATION of the accumulator backup compressed gas system low pressure alarm systems and verifying air alarm setpoint of  $2070 \pm 35$  psig on decreasing pressure.

\*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

\*\*ADS solenoid energization shall be used alternating between ADS Division 1 and ADS Division 2.

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# For the startup following the Third Refueling and Inspection Outage, this surveillance shall read as follows:  
For the HPCI system, verifying that the system develops a flow of at least 4850 gpm against a test line pressure of 600 psig when steam is being supplied to the turbine at  $150 \pm 15$  psig.\*

## PLANT SYSTEMS

### 3/4.7.3 REACTOR CORE ISOLATION COOLING SYSTEM

#### LIMITING CONDITION FOR OPERATION

3.7.3 The reactor core isolation cooling (RCIC) system shall be OPERABLE with an OPERABLE flow path capable of taking suction from the suppression pool and transferring the water to the reactor pressure vessel.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3 with reactor steam dome pressure greater than 150 psig.

#### ACTION:

- a. With the condensate transfer pump discharge low pressure alarm instrumentation inoperable, monitor the CSS, LPCI, HPCI, and RCIC pressure locally at least once per 24 hours.
- b. With the RCIC system otherwise inoperable, operation may continue provided the HPCI system is OPERABLE; restore the RCIC system to OPERABLE status within 14 days or be in at least HOT SHUTDOWN within the next 12 hours and reduce reactor steam dome pressure to less than or equal to 150 psig within the following 24 hours.

#### SURVEILLANCE REQUIREMENTS

4.7.3 The RCIC system shall be demonstrated OPERABLE:

- a. At least once per 31 days by:
  1. Verifying that the system piping from the pump discharge valve to the system isolation valve is filled with water by:
    - a. Venting at the high point vents.
    - b. Performance a CHANNEL FUNCTIONAL TEST of the condensate transfer pump discharge low pressure alarm instrumentation.
  2. Verifying that each valve, manual, power operated or automatic in the flow path that is not locked, sealed or otherwise secured in position, is in its correct position.
  3. Verifying that the pump flow controller is in the correct position.
- b. At least once per 92 days by verifying that the RCIC pump develops a flow of greater than or equal to 600 gpm in the test flow path with a system head corresponding to reactor vessel operating pressure when steam is being supplied to the turbine at  $920 \pm 140, - 0$  psig.\*

\*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the test.

PLANT SYSTEMS

SURVEILLANCE REQUIREMENTS (Continued)

- c. At least once per 18 months by:
1. Performing a system functional test which includes simulated automatic actuation and restart and verifying that each automatic valve in the flow path actuates to its correct position, but may exclude actual injection of coolant into the reactor vessel.
  2. <sup>#</sup> Verifying that the system will develop a flow of greater than or equal to 600 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150, + 15, -0 psig.\*
  3. Verifying that the suction for the RCIC system is automatically transferred from the condensate storage tank to the suppression pool on a condensate storage tank water level-low signal.
  4. Performing a CHANNEL CALIBRATION of the condensate transfer pump discharge low pressure alarm instrumentation and verifying the low pressure alarm setpoint to be greater than or equal to 113 psig.
- d. In the event the RCIC system is actuated and injects water into the reactor coolant system, a Special Report shall be prepared and submitted to the Commission pursuant to Specification 6.9.2 within 90 days describing the circumstances of the actuation and the total accumulated actuation cycles to date. The current value of the usage factor for each affected injection nozzle shall be provided in this Special Report whenever its value exceeds 0.70.

\*The provisions of Specification 4.0.4 are not applicable provided the surveillance is performed within 12 hours after reactor steam pressure is adequate to perform the tests.

# For the startup following the Third Refueling and Inspection Outage, this Surveillance shall read as follows:

Verifying that the system will develop a flow of greater than or equal to 530 gpm in the test flow path when steam is supplied to the turbine at a pressure of 150, +15, -0 psig.\*

SUSQUEHANNA - UNIT 2

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with a Test Line

pressure of 480 psig

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