

The leakage from each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-0 shall be limited to 0.5gpm per nominal inch of valve size up to a maximum of 5gpm, at a Reactor Coolant System average pressure within 20 psig of the nominal full pressure value

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 GPM UNIDENTIFIED LEAKAGE,
- c. 600 gallons per day total primary-to-secondary leakage through all steam generators and 150 gallons per day through any one steam generator for Fuel Cycle 14,
- d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,
- e. Seal line resistance greater than or equal to  $2.27E-1$  ft/gpm<sup>2</sup> and,
- f. ~~1 GPM leakage from any reactor coolant system pressure isolation valve specified in Table 3.4-0.~~

APPLICABILITY: MODES 1, 2, 3 and 4. ~~5~~ \*

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, except when:
  - ~~1. The leakage is less than or equal to 5.0 gpm, and~~
  - ~~2. The most recent measured leakage does not exceed the previous measured leakage by an amount that reduces the~~

~~To satisfy NRC requirements, measured leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.~~

\* ~~Specification 3.4.6.2.e is applicable with average pressure within 20 psi of the nominal full pressure value.~~

## REACTOR COOLANT SYSTEM

### LIMITING CONDITION FOR OPERATION (Continued)

~~margin between the most recent measured leakage and the maximum limit of 5.0 gpm by 50% or more.~~

declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of a combination of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

### SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.
- b. Monitoring the containment sump inventory and discharge at least once per 12 hours.
- c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm<sup>2</sup>. The seal line resistance,  $R_{SL}$ , is determined from the following expression:

$$R_{SL} = \frac{2.31 (P_{CHP} - P_{SI})}{Q^2}$$

where:  $P_{CHP}$  = charging pump header pressure, psig

$P_{SI}$  = 2112 psig (low pressure operation)

2262 psig (high pressure operation)

2.31 = conversion factor (12 in/ft)<sup>2</sup> / (62.3 lb/ft<sup>3</sup>)

$Q$  = the total seal injection flow, gpm

The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 and 4.

- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- a. Monitoring the reactor head flange leakoff system at least once per 24 hours.

pursuant to Specification 4.0.5.

4.4.6.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE by verifying leakage to be within its limit prior to entering MODE-3.

- a. After each refueling outage;
- b. Whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months;
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

Replace with the attached

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u> <sup>(a)</sup>
SI-170L2 RH133	Low Head Safety Injection Loop 2, cold leg
SI-170L3 RH134	Loop 3, cold leg

<sup>(a)</sup> Minimum test differential pressure shall not be below 150 psid.

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE

<u>VALVE NUMBER</u>	<u>VALVE SIZE (in.)</u>	<u>FUNCTION (a)</u>	<u>MAXIMUM ALLOWABLE LEAKAGE (gpm)</u>
SI-170L2	10	ECCS to Reactor Coolant Loop #2 Cold Leg.	5
RH 133	8	RHR to Reactor Coolant Loop #2 Cold Leg	4
SI-170L3	10	ECCS to Reactor Coolant Loop #3 Cold Leg	5
RH 134	8	RHR to Reactor Coolant Loop #3 Cold Leg	4

(a) minimum test differential pressure shall not be below 150 psid.

The leakage from each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-0 shall be limited to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at a Reactor Coolant System average pressure within 20 psi of the nominal full pressure value.

## REACTOR COOLANT SYSTEM

### OPERATIONAL LEAKAGE

#### LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 GPM UNIDENTIFIED LEAKAGE,
- c. 1 GPM total primary-to-secondary leakage through all steam generators and 500 gallons per day through any one steam generator,
- d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,
- e. Seal line resistance greater than or equal to  $2.27 \text{ E-1 ft/gpm}^2$ , and
- f. ~~1 GPM leakage from any reactor coolant system pressure isolation valve specified in Table 3.4-0.~~

APPLICABILITY: MODES 1, 2, 3 and ~~4~~ \*

#### ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, except when:
  1. ~~The leakage is less than or equal to 5.0 gpm, and~~
  2. ~~The most recent measured leakage does not exceed the previous measured leakage\* by an amount that reduces the~~

~~\*To satisfy ALARA requirements, measured leakage may be measured indirectly (as from the performance of pressure indicators) if accomplished in accordance with approved procedures and supported by computations showing that the method is capable of demonstrating valve compliance with the leakage criteria.~~

\* Specification 3.4.6.2.e is applicable with average pressurizer pressure within 20 psi of the nominal full pressure value.

REACTOR COOLANT SYSTEM

LEAKING CONDITION FOR OPERATION (Continued)

~~margin between the most recent measured leakage and the maximum limit of 5.0 gpm by 50% or more.~~

declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.
- b. Monitoring the containment sump inventory and discharge at least once per 12 hours.
- c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm<sup>2</sup>. The seal line resistance,  $R_{SL}$ , is determined from the following expression:

$$R_{SL} = \frac{2.31 (P_{CHP} - P_{SI})}{Q^2}$$

where:  $P_{CHP}$  - charging pump header pressure, psig

$P_{SI}$  - 2262 psig (high pressure operation)

2.31 - conversion factor (12 in/ft)<sup>2</sup>/(62.3 lb/ft<sup>3</sup>)

$Q$  - the total seal injection flow, gpm

The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 and 4.

- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and

REACTOR COOLANT SYSTEM

SURVEILLANCE REQUIREMENTS (Continued)

- e. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.6.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE pursuant to Specification 4.0.5; ~~except that in lieu of any leakage testing required by Specification 4.0.5, each valve shall be demonstrated OPERABLE by verifying leakage to be within its limit prior to entering MODE 3;~~

- a. After each refueling outage;
- b. Whenever the plant has been in COLD SHUTDOWN for 72 hours or more and if leakage testing has not been performed in the previous 9 months;
- c. Prior to returning the valve to service following maintenance, repair or replacement work on the valve.

Replace with the attached

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

<u>VALVE NUMBER</u>	<u>FUNCTION</u> <sup>(a)</sup>
SI-170L2 RH133	Low-Head Safety Injection Loop 2, cold leg
SI-170L3 RH134	Loop 3, cold leg

<sup>(a)</sup> Minimum test differential pressure shall not be below 150 psid.

TABLE 3.4-0

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE

<u>VALVE NUMBER</u>	<u>VALVE SIZE (in.)</u>	<u>FUNCTION (a)</u>	<u>MAXIMUM ALLOWABLE LEAKAGE (gpm)</u>
SI-170L2	10	ECCS to Reactor Coolant Loop #2 Cold Leg	5
RH 133	8	RHR to Reactor Coolant Loop #2 Cold Leg	4
SI-170L3	10	ECCS to Reactor Coolant Loop #3 Cold Leg	5
RH 134	8	RHR to Reactor Coolant Loop #3 Cold Leg	4

(a) Minimum test differential pressure shall not be below 150 psid.

ATTACHMENT 3 TO AEP:NRC:1180A  
PROPOSED REVISED TECHNICAL SPECIFICATIONS PAGES

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.6.2 Reactor Coolant System leakage shall be limited to:

- a. No PRESSURE BOUNDARY LEAKAGE,
- b. 1 GPM UNIDENTIFIED LEAKAGE,
- c. 600 gallons per day total primary-to-secondary leakage through all steam generators and 150 gallons per day through any one steam generator for Fuel Cycle 14,
- d. 10 GPM IDENTIFIED LEAKAGE from the Reactor Coolant System,
- e. Seal line resistance greater than or equal to  $2.27E-1$  ft/gpm<sup>2</sup> and,
- f. The leakage from each Reactor Coolant System Pressure Isolation Valves specified in Table 3.4-0 shall be limited to 0.5 gpm per nominal inch of valve size up to a maximum of 5 gpm, at a Reactor Coolant System average pressure within 20 psi of the nominal full pressure value.

APPLICABILITY: MODES 1, 2, 3 and 4.\*

ACTION:

- a. With any PRESSURE BOUNDARY LEAKAGE, be in at least HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours.
- b. With any Reactor Coolant System leakage greater than any one of the above limits, excluding PRESSURE BOUNDARY LEAKAGE, reduce the leakage rate to within limits within 4 hours or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.
- c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of a combination of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

\* Specification 3.4.6.2.e is applicable with average pressure within 20 psi of the nominal full pressure value.

REACTOR COOLANT SYSTEM

LIMITING CONDITIONS FOR OPERATION (Continued)

SURVEILLANCE REQUIREMENTS

4.4.6.2.1 Reactor Coolant System leakages shall be demonstrated to be within each of the above limits by:

- a. Monitoring the containment atmosphere particulate radioactivity monitor at least once per 12 hours.
- b. Monitoring the containment sump inventory and discharge at least once per 12 hours.
- c. Determining the seal line resistance at least once per 31 days when the average pressurizer pressure is within 20 psi of its nominal full pressure value. The seal line resistance measured during the surveillance must be greater than or equal to 2.27 E-1 ft/gpm<sup>2</sup>. The seal line resistance,  $R_{SL}$ , is determined from the following expression:

$$R_{SL} = \frac{2.31 (P_{CHP} - P_{SI})}{Q^2}$$

where:  $P_{CHP}$  - charging pump header pressure, psig

$P_{SI}$  - 2112 psig (low pressure operation)

2262 psig (high pressure operation)

2.31 - conversion factor (12 in/ft)<sup>2</sup>/(62.3 lb/ft<sup>3</sup>)

$Q$  - the total seal injection flow, gpm

The provisions of Specification 4.0.4 are not applicable for entry into MODES 3 and 4.

- d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours during steady state operation, and
- e. Monitoring the reactor head flange leakoff system at least once per 24 hours.

4.4.6.2.2 Each reactor coolant system pressure isolation valve specified in Table 3.4-0 shall be demonstrated OPERABLE pursuant to Specification 4.0.5.

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REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVE

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REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

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- e. Seal line resistance greater than or equal to  $2.27E-1$  ft/gpm<sup>2</sup> and,
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ACTION:

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- c. With any reactor coolant system pressure isolation valve(s) leakage greater than the above limit, declare the leaking valve inoperable and isolate the high pressure portion of the affected system from the low pressure portion by the use of at least two closed valves, one of which may be the OPERABLE check valve and the other a closed de-energized motor operated valve. Verify the isolated condition of the closed de-energized motor operated valve at least once per 24 hours, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

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REACTOR COOLANT SYSTEM

LIMITING CONDITIONS FOR OPERATION (Continued)

SURVEILLANCE REQUIREMENTS

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RH 134	8	RHR to Reactor Coolant Loop #3 Cold Leg	4

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