

EXISTING TECHNICAL SPECIFICATIONS

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3. Measured increase in primary to secondary leakage in excess of 15 gpd (0.01 gpm) per day in any steam generator, when measured primary to secondary leakage is above 140 gpd;

the reactor will be placed in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. Following reactor shutdown, leaking tubes shall be repaired or plugged.

- C. Upon detection and confirmation of primary to secondary leaks in excess of 0.3 gpm in any steam generator, the reactor will be placed in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. Following reactor shutdown, an eddy current inspection will be performed as required by Technical Specification 4.16, any leaking steam generator tubes shall be repaired or plugged and the NRC be notified pursuant to Specification 6.9.2 prior to resumption of plant operation.
- D. With only two of the above required leakage detection systems/methods OPERABLE, operation may continue for up to 30 days provided a Reactor Coolant System water inventory balance is performed every 24 hours; otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

BASIS:

Two basic kinds of leakage from the reactor coolant system are possible, namely:

1. To other closed systems.
2. Directly to the containment.

Systems into which leakage from the reactor coolant system could occur are designed to accept such leakage. However, leakage directly into the containment indicates the possibility of a breach in the coolant envelope. For this reason, the acceptable value for a source of leakage not identified was set at 1 gpm.

Once the source of leakage has been identified, it can be determined if operation can safely continue. Under these conditions, an allowable leakage rate of 6 gpm has been established. This is based upon the contingency of sustained loss of all off-site power and failure of the on-site generation. With 6 gpm leakage, decay heat removal can safely be accomplished for a period in excess of 12 hours. Within the 12 hour period, the reactor coolant system can be depressurized.

To comply with Paragraph IV.C.1(b)(4) of the "Interim Acceptance Criteria for Emergency Core Cooling Systems for Light-Water Power Reactors" adopted by the AEC on June 19, 1971, the maximum allowable identified leakage rate from the primary coolant system has been established as not exceeding 6 gpm. This value is based on operating experience regarding non-safety related equipment limitations which has shown that, under certain circumstances where primary system leakage is directed to the gas handling portion of the radwaste system, the capacity of this system would be exceeded during extended operation with a leakage greater than 6 gpm. The justification for the 0.3 gpm primary to secondary leakage limit is as described in the Basis for Technical Specification 4.16.

Detection of leaks from the reactor coolant system to the containment and/or secondary system is accomplished primarily through use of the following methods:

1. Sump level
2. Radiation monitoring
3. Blowdown effluent monitoring

With these methods, a leak of 1 gpm can be detected in a matter of hours. The radiation monitors can measure the presence of a leak into the containment by monitoring the change in background radiation levels. As an alternate to direct measurement, the use of grab samples at an appropriate frequency is also acceptable. The sump level control system consists of two instrumentation inputs (LS-80 and 82) which alert the operators of changing conditions at different sump levels. The sump level monitoring system (LIS 2001 and LIS 3001) is an alternate to the sump level control system, but since it is not alarmed, it is required by surveillance to be monitored every 12 hours. Additional indicators of potential RCS leakage include containment temperature, humidity and pressure. Leakage through the steam generators is detected primarily through use of the blowdown effluent monitor and alternately by grab samples. In the event of unavailability of one of the three methods of reactor coolant system leakage detection, the performance of a reactor coolant system water inventory balance at an increased frequency assures safety.

PROPOSED TECHNICAL SPECIFICATIONS

APPENDIX A
 TECHNICAL SPECIFICATIONS
 LIST OF EFFECTIVE PAGES

<u>Page</u>	<u>Amendment No.</u>	<u>Page</u>	<u>Amendment No.</u>	<u>Page</u>	<u>Amendment No.</u>
i		3.0-1	43, 56, 64,	3.3-2	25, 130
ii	<u>131</u>		83, 130	3.3-3	25, 38, 86, 124,
iii	133	3.0-2	56, 64, 83, 130		130
iv	131	3.1-1	29, 38, 70,	3.3-4	25, 37, 124, 130
v	90, 130, 131		83, 91, 96, 130	3.3-5	25, 130
vi	90, 130, 131	3.1-2	29, 83, 96, 130	3.3-6	25, 102, 120,
vii	90, 102, 130, 131	3.1-3	43, 77, 103, 130		130
viii	90, 130,	3.1-4	77, 130	3.3-7	25, 102, 130
ix	90, 91, 102, 130,	3.1-5	77, 125, 130	3.3-8	25, 38, 122, 130
	131	3.1-6	77, 102, 130	3.3-9	25, 38, 122, 130
x	90, 91, 130, 131	3.1-7	77, 102, 103,	3.3-10	25, 130
xi	55, 92, 102, 110,		130	3.3-11	NRC order
	111, 130, 131	3.1-8	43, 102, 103,		4/20/81, 130
xii	56, 58, 71,		130	3.3.12	NRC order
	79, 83, 104,	3.1-9	77, 102, 130		4/20/81, 130
	117, 130, 131	3.1-10	Change No. 14	3.4-1	29, 82, 125, 130
xiii	31, 56, 58,		38, 102, 130	3.4-2	29, 130
	79, 83, 84,	3.1-11	Change No. 14	3.4-3	82, 125, 130
	91, 117, 130, 131		38, 102, 130	3.4-4	82, 125, 130
xiv	131	3.1-12	Change No. 14	3.5-1	83, 117, 130
1.0-1	31, 56, 59		92, 130	3.5-2	43, 56, 58,
	83, 117, 130	3.1-13	Change No. 14		83, 117, 128,
1.0-2	31, 56, 59,		92, 130		130
	83, 104, 117, 130	3.1-14	Change No. 14	3.5-3	43, 56, 58, 83,
1.0-3	31, 56, 59, 79,		102, 130		117, 121, 122,
	83, 104, 117, 130	3.1-15	Change No. 14		130
1.0-4	31, 56, 59,		102, 130	3.5-4	55, 58, 83, 117,
	79, 83, 117, 130	3.1-16	Change No. 14		118, 121, 128,
1.0-5	77, 79, 83,		102, 130		130
	117, 130	3.1-17	Change No. 14	3.5-5	83, 117, 130
1.0-6	79, 83, 96		102, 130	3.5-6	7, 11, 25,
	117, 130	3.1-18	Change No. 7		35, 55, 56,
1.0-7	58, 83, 117, 130		37, 55, 91, 119,		111, 130
1.0-8	56, 83, 117, 130	3.1-19	Change No. 7,	3.5-7	7, 11, 25,
2.1-1	43, 55, 97,		55, 119, 130,		35, 49, 55,
	117, 130				56, 111, 122,
2.1-2	43, 97, 117, 121,	3.1-20	<u>37</u> , 55, 119,	3.5-8	11, 49, 111,
	130		130,		122, 130
2.1-3	43, 117, 121,	3.1-21	58, <u>59</u> , 83, 130	3.5-9	11, 25, 56,
	122, 130	3.1-22	58, 130		111, 130
2.1-4	43, 117, 121,	3.1-23	83, 130	3.5-10	56, 130
	122, 130	3.2-1	102, 130	3.5-11	56, 130
2.1-5	43, 97, 117, 121	3.2-2	25, 102, 130	3.5-12	56, 130
	122, 130	3.3-1	25, 37, 86, 124,	3.5-13	56, 130
2.1-6	55, 130		130		

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the reactor will be placed in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. Following reactor shutdown, leaking tubes shall be repaired or plugged.

- C. Upon detection and confirmation of primary to secondary leaks in excess of 0.3 gpm in any steam generator, the reactor will be placed in HOT STANDBY within 6 hours and in COLD SHUTDOWN within the following 30 hours. Following reactor shutdown, an eddy current inspection will be performed as required by Technical Specification 4.16, any leaking steam generator tubes shall be repaired or plugged and the NRC shall be notified pursuant to Specification 6.9.2 prior to resumption of plant operation.
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Systems into which leakage from the reactor coolant system could occur are designed to accept such leakage. However, leakage directly into the containment indicates the possibility of a breach in the coolant envelope. For this reason, the acceptable value for a source of leakage not identified was set at 1 gpm.

Once the source of leakage has been identified, it can be determined if operation can safely continue. If the source of the leakage can be identified, then the maximum allowable leakage rate is 6 gpm. However, the 6 gpm is the total of unidentified and identified leakage. The unidentified leakage is still limited to 1 gpm. The 6 gpm value is based on operating experience regarding non-safety related equipment limitations which has shown that, under certain circumstances where primary system leakage is directed to the gas handling portion of the radwaste system, the capacity of this system would be exceeded during extended operation with a leakage greater than 6 gpm. Leakage which collects in the containment

sump will be processed by the radwaste system during normal operation. If the rate at which this leakage collects exceeds 6 gpm, the potential to exceed the long term capacity of parts of the radwaste system is created. This value also complies with paragraph IV.C.1(b)(4) of the "Interim Acceptance Criteria for Emergency Core Cooling Systems for Light Water Power Reactors" adopted by the AEC on June 19, 1971 which states that leakage rates should be as low as practical.

During normal plant operation both the letdown system and the reactor coolant pumps #1 seals allow reactor coolant to flow from the reactor coolant system to auxiliary systems. Both of these flows occur by design and are returned to the reactor coolant inventory. For this reason flow through these systems is not a contribution to the 6 gpm leakage limitation.

The justification for the 0.3 gpm primary to secondary leakage limit is as described in the Basis for Technical Specification 4.16.

Detection of leaks from the reactor coolant system to the containment and/or secondary system is accomplished primarily through use of the following methods:

1. Sump level
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