ATTACHMENT 1

Proposed Unit 2 Technical Specifications 3/4.4.7.3

New Page 3/4 4-19
New Page 3/4 4-19a
New Page 3/4 4-19b

Revised Unit 1 Technical Specification 4.4.7.3.2

Revised Page 3/4 4-19a

Revised Unit 2 Technical Specifications 3/4.4.7.2

Revised Page 3/4 4-17
Revised Page 3/4 4-18
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PRESSURE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.4.7.3 Reactor Coolant System pressure isolation valves shall be operational.

APPLICABILITY: MODES 1, 2, 3 and 4

ACTION:

1. All pressure isolation valves listed in Table 3.4-1 shall be functional as a pressure isolation device, except as specified in 2. Valve leakage shall not exceed the amounts indicated in Table 3.4-1.

2. In the event that integrity of any pressure isolation valve specified in Table 3.4-1 cannot be demonstrated, reactor operation may continue, provided that within 4 hours at least two valves in each high pressure line having a non-functional valve are in, and remain in, the mode corresponding to the isolated condition.(a)

3. If ACTION 1 and 2 cannot be met, an orderly shutdown shall be initiated within 1 hour and the reactor shall be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

(a) Motor operated valves shall be placed in the closed position and power supplies de-energized.

SURVEILLANCE REQUIREMENT

4.4.7.3.1 Each pressure isolation valve listed in Table 3.4-1 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 should be demonstrated OPERABLE by verifying leakage to be within the limit of Table 3.4-1:(a)

a. Every refueling outage during startup.

b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.

c. Following valve actuation due to flow through the valve(s) identified in Table 3.4-1 by an asterisk.

d. The provision of Specification 4.0.4 is not applicable for entry into MODE 3 or 4.

(a) To satisfy ALARA requirements, 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.

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

Q2E11V016A	Q2E21V062A
Q2E11V001A	Q2E21V062B
Q2E11V016B	Q2E21V062C
Q2E11V001B	Q2E21V066A
	Q2E21V066B
Q2E11V051A	Q2E21V066C
Q2E11V051B	Q2E21V077C
Q2E11V051C	Q2E21V078A
Q2E11V021A	Q2E21V078B
Q2E11V021B	Q2E21V078C
Q2E11V021C	Q2E21V079A
Q2E11V042A	Q2E21V079B
Q2E11V042B	Q2E21V079C
Q2E21V077A*	Q2E21V032A*
Q2E21V077B*	Q2E21V032B*
Q2E21V076A*	Q2E21V032C*
Q2E21V076B*	Q2E21V037A*
	Q2E21V037B*
	Q2E21V037C*

ALLOWABLE LEAKAGE RATES:

1. Leakage rates less than or equal to 1.0 gpm are considered acceptable. However, for initial tests, or tests following valve repair or replacement, leakage rates less than or equal to 5.0 gpm are considered acceptable.

2. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

3. Leakage rates greater than 1.0 gpm but less than or equal to 5.0 gpm are considered unacceptable if the latest measured rate exceeded the rate determined by the previous test by an amount that reduces the margin between measured leakage rate and the maximum permissible rate of 5.0 gpm by 50% or greater.

4. Leakage rates greater than 5.0 gpm are considered unacceptable.

Minimum differential test pressure shall not be less than 150 psid.

SURVEILLANCE REQUIREMENT

4.4.7.3.1 Each pressure isolation valve listed in Table 4.4-2a 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 should be demonstrated OPERABLE by verifying leakage to be within the limit of Table 4.4-2a:[a]

a. Every refueling outage during startup.

b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.

c. Following the plant being placed in a cold shutdown condition for at least 72 hours duration if leakage testing has not been accomplished within 12 months.

d. The provision of Specification 4.0.4 is not applicable for entry into MODE 3 or 4.

4.4.7.3.2 Whenever integrity of a pressure isolation valve listed in Table 4.4-2a cannot be demonstrated, the integrity of the remaining valve in each high pressure line having a leaking valve shall be determined and recorded daily. In addition, the position of the other closed valve located in the high pressure piping shall be recorded daily.

Delete

[a] To satisfy ALARA requirements, 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.

REACTOR COOLANT SYSTEM

OPERATIONAL LEAKAGE

LIMITING CONDITION FOR OPERATION

3.4.7.2 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, and

e. 31 GPM CONTROLLED LEAKAGE at a Reactor Coolant System pressure of 2235 ± 20 psig.

f. 1 GPM leakage from any Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 at a Reactor Coolant System pressure of 2235 ± 20 psig.

Delete

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 leakage greater that the above limit, isolate the high pressure portion of the affected system from the low pressure portion within 4 hours by use of at least two closed manual or deactivated automatic valves, or be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 30 hours.

Delete

SURVEILLANCE REQUIREMENTS

4.4.7.2.1 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 air cooler condensate level system or containment atmosphere gaseous radioactivity monitor at least once per 12 hours.

SURVEILLANCE REQUIREMENTS (Continued)

c. Measurement of the CONTROLLED LEAKAGE from the reactor coolant pump seals at least once per 31 days when the Reactor Coolant System pressure is 2235 ± 20 psig with the modulating valve fully open. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

d. Performance of a Reactor Coolant System water inventory balance at least once per 72 hours.

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

4.4.7.2.2 Each Reactor Coolant System Pressure Isolation Valve specified in Table 3.4-1 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 should be demonstrated OPERABLE by verifying leakage to be within its limit.

a. Every refueling outage during startup.

b. Prior to returning the valve to service following maintenance, repair or replacement work on the valve affecting the seating capability of the valve.

c. Following valve actuation due to automatic or manual action or flow through the valve for valves identified in Table 3.4-1 by an asterisk.

d. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3 or 4.

Delete

TABLE 3.4-1

REACTOR COOLANT SYSTEM PRESSURE ISOLATION VALVES

Q2E11V016A
Q2E11V001A
Q2E11V016A
Q2E11V001B

Q2E11V051A
Q2E11V051B
Q2E11V051C
Q2E11V021A
Q2E11V021B
Q2E11V021C
Q2E11V042A
Q2E11V042B

Q2E21V077A*
Q2E21V077B*
Q2E21V076A*
Q2E21V076B*

Delete, Replace with new pages.

Q2E21V062A
Q2E21V062B
Q2E21V062C
Q2E21V066A
Q2E21V066B
Q2E21V066C
Q2E21V077C
Q2E21V078A
Q2E21V078B
Q2E21V078C
Q2E21V079A
Q2E21V079B
Q2E21V079C

Q2E21V032A*
Q2E21V032B*
Q2E21V032C*
Q2E21V037A*
Q2E21V037B*
Q2E21V037C*

ATTACHMENT 2

Safety Evaluation for Proposed Changes to the
FNP-1 and-2 Technical Specifications
Sections 3/4.4.7.2 and 3/4.4.7.3

I. Background:

J. M. Farley Nuclear Plant - Units 1 and 2 are required to test reactor coolant system pressure isolation valves per Technical Specifications 4.4.7.3 and 4.4.7.2.2, respectively. The testing requirements and acceptance criteria for these valves contained in the Unit 2 Technical Specifications have proven to be too restrictive, while the Unit 1 Technical Specification testing requirements and acceptance criteria for these same valves have been found to be adequate in determining valve operability and at the same time have not resulted in excessive personnel radiation exposure. The Unit 2 test acceptance criteria of 1 gpm versus the Unit 1 criteria of 1 to 5 gpm has proven to be excessively restrictive without concomitant safety benefit. Therefore, Alabama Power Company respectfully requests that the Unit 1 Technical Specification testing requirements and acceptance criteria be incorporated into the Unit 2 Technical Specifications.

A revision to the Unit 1 Technical Specifications is also proposed which deletes paragraph 4.4.7.3.2. This paragraph is in conflict with the existing ACTION statement and is unnecessary since the ACTION statement adequately addresses valve integrity.

II. References:

(1) FNP Unit 1 Technical Specifications 3/4.4.7.3
(2) FNP Unit 2 Technical Specifications 3/4.4.7.2

III. Bases:

It is proposed to add Specifications 3/4.4.7.3 (which are equivalent to the Unit 1 requirements) and delete Specifications 3.4.7.2.f, ACTION statement C, and 4.4.7.2.2 from the Unit 2 Technical Specifications. The Unit 1 version contains necessary clarifications in testing requirements and represents an improvement over those in the Unit 2 Technical Specifications.

In summary, the current Unit 1 leakage criteria is that leakage rates greater than 1 gpm but less than or equal to 5 gpm are considered acceptable if the latest measured rate has not exceeded the rate determined by the previous test by an amount that reduces the margin between leakage rate and the maximum permissible rate of 5 gpm by 50% or greater. This Unit 1 criteria is herein referred to as the 1 to 5 gpm limit.

The Unit 2 test acceptance criteria of 1 gpm versus the 1 to 5 gpm limit on Unit 1 for the reactor coolant system pressure isolation valve leak test has proven to be excessively restrictive with no corresponding safety benefit. Valves that did not pass either the 1 gpm or the 1 to 5 gpm acceptance criteria have been found to contain the same type irregularities causing the valves not to seat completely. No evidence of impending valve failure has been found. In addition, six valves repaired out of a total of sixteen tested to the 1 gpm criteria resulted in plant personnel receiving approximately 10 times the radiation exposure of that associated with the 1 to 5 gpm limit, i.e., 25.0 rem versus 2.5 rem. Therefore, the 1 to 5 gpm limit will provide adequate assurance of valve integrity, and at the same time will not compromise the health and safety of plant personnel.

The purpose of the valve surveillance testing is to reduce the probability of a LOCA resulting from valve failure between the reactor coolant system and interconnecting low pressure systems (i.e., Event V in WASH-1400). The probability of such an occurrence is extremely low as stated in WASH-1400, on the order of 10^{-6}/year. Also as stated in WASH-1400, yearly testing of the valves will reduce the failure probability to approximately 10^{-7}/year, an order of magnitude decrease. Therefore, the proper stroking of the valves during test performed on a yearly basis is the primary indication of acceptable valve integrity, while the leakage criteria is only a secondary indication. The 1 to 5 gpm leakage criteria is a more reasonable test which does not represent an increase in probability of valve failure over that represented by the 1 gpm leakage criteria. Thus there is not a significant affect on the safe operation of Unit 2 as a result of this proposed change in valve leakage test criteria.

In addition, it is proposed to delete Paragraph 4.4.7.3.2 from the Unit 1 version of the Technical Specifications. This is because the existing ACTION statement of Section 3/4.4.7.3 adequately addresses valve integrity and is in conflict with Paragraph 4.4.7.3.2. Since the ACTION statement requires valve and/or system integrity to be maintained/isolated or the plant is to initiate an orderly shutdown within one hour, the requirement of Paragraph 4.4.7.3.2 to daily monitor leakage of downstream valves in the system is inappropriate. Furthermore, such valve leakage monitoring cannot be performed while the reactor is in operation or while the reactor coolant system is pressurized due to personnel safety considerations. Therefore, the deletion of Paragraph 4.4.7.3.2 does not affect the safe operation of Unit 1.

IV. Conclusion:

The proposed changes to the Units 1 and 2 Technical Specifications represent improvements in the testing required for the reactor coolant system pressure isolation valves and do not involve an unreviewed safety question as defined by 10CFR50.59.