

PLANT SYSTEMS

MAIN FEEDWATER LINE ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Each main feedwater line isolation valve shall be OPERABLE.

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

ACTION:

MODE 1 - With one main feedwater line isolation valve inoperable but open, POWER OPERATION may continue provided the inoperable valve is restored to OPERABLE status within 4 hours; otherwise, be in at least HOT STANDBY within the next 6 hours.

MODES 2, 3 - and 4 With one or both main feedwater line isolation valve(s) inoperable, subsequent operation in MODE 2, 3, or 4 may proceed provided the isolation valve(s) is (are) maintained closed. Otherwise, be in at least HOT STANDBY within the next 6 hours and in COLD SHUTDOWN within the following 24 hours

The provisions of Specification 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.1.6 Each main feedwater line isolation valve shall be demonstrated OPERABLE by verifying full closure within 5.15 seconds when tested pursuant to Specification 4.0.5

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PLANT SYSTEMS

MAIN FEEDWATER ISOLATION VALVES

LIMITING CONDITION FOR OPERATION

3.7.1.6 Four main feedwater isolation valves (MFIVs) shall be OPERABLE.

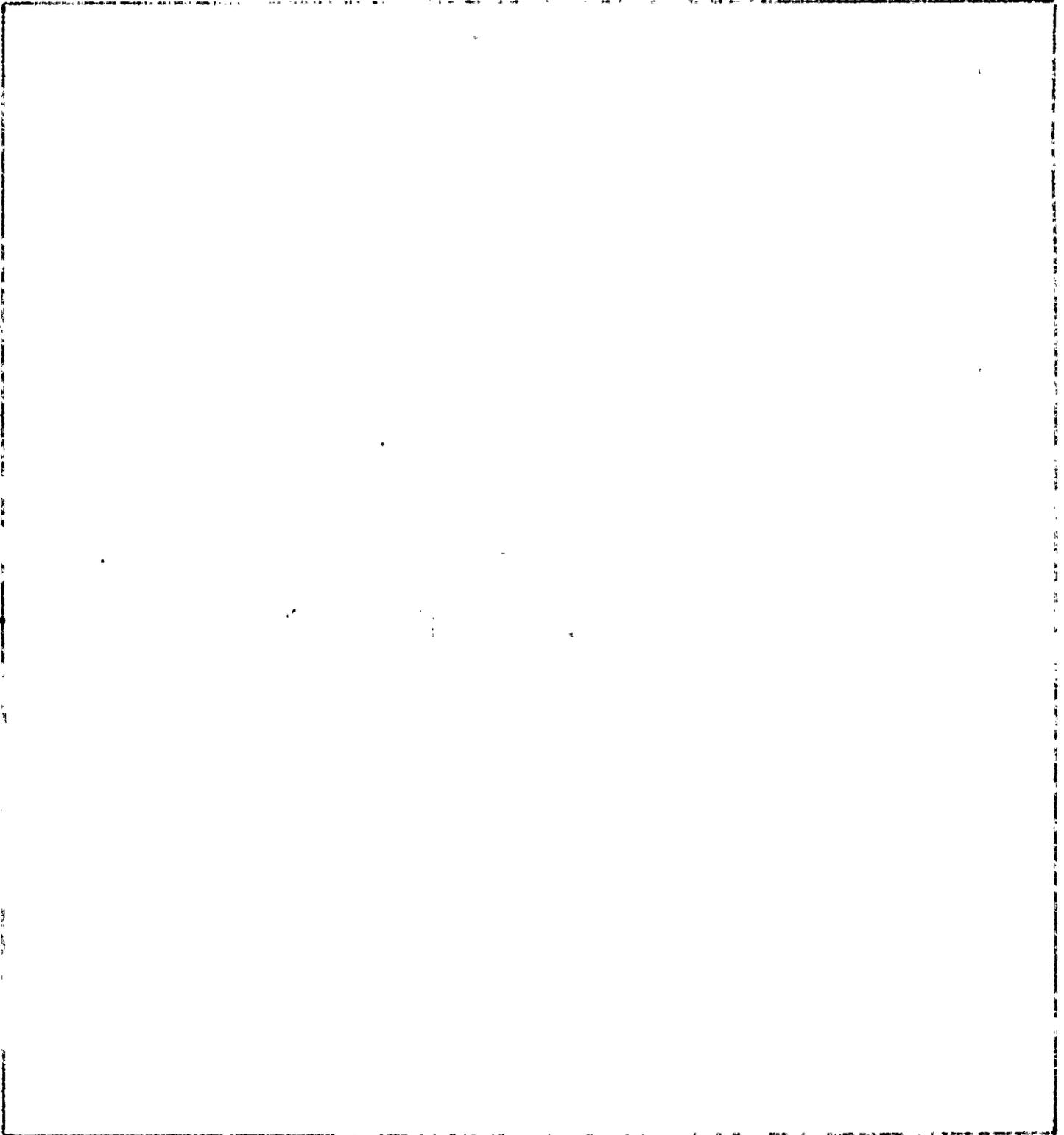
APPLICABILITY:* MODES 1, 2, and 3, except when the MFIV is closed and deactivated.

- ACTION:
- a. With one MFIV inoperable in one or more main feedwater lines, OPERATION may continue provided each inoperable valve is restored to OPERABLE status, closed, or isolated within 72 hours. Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.
 - b. With two MFIVs inoperable in the same flowpath, restore at least one of the inoperable MFIVs to OPERABLE status or close one of the inoperable valves within 4 hours. Otherwise, be in HOT STANDBY within the next 6 hours and in HOT SHUTDOWN within the following 6 hours.

SURVEILLANCE REQUIREMENTS

- 4.7.1.6.a Each MFIV shall be demonstrated OPERABLE by verifying full closure within 5.15 seconds when tested pursuant to Specification 4.0.5. The provisions of Specification 4.0.4 are not applicable for entry into MODE 3.
- 4.7.1.6.b For each inoperable MFIV, verify that it is closed or isolated once per 7 days.

* Each MFIV shall be treated independently.



PLANT SYSTEMS

BASES

3/4.7.1.4 ACTIVITY

The limitations on secondary system specific activity ensure that the resultant offsite radiation dose will be limited to a small fraction of 10 CFR Part 100 limits in the event of a steam line rupture. This dose also includes the effects of a coincident 1.0 gpm primary to secondary tube leak in the steam generator of the affected steam line and a concurrent loss of offsite electrical power. These values are consistent with the assumptions used in the safety analyses.

3/4.7.1.5 MAIN STEAM LINE ISOLATION VALVES

The OPERABILITY of the main steam line isolation valves ensures that no more than one steam generator will blow down in the event of a steam line rupture. This restriction is required to (1) minimize the positive reactivity effects of the Reactor Coolant System cooldown associated with the blowdown, and (2) limit the pressure rise within containment in the event the steam line rupture occurs within containment. The OPERABILITY of the main steam isolation valves within the closure times of the Surveillance Requirements is consistent with the assumptions used in the safety analyses.

The specified 6.75 second full closure time represents the addition of the maximum allowable instrument response time of 1.15 seconds and the maximum allowable valve stroke time of 5.6 seconds. These maximum allowable values should not be exceeded because they represent the design basis values for the plant.

3/4.7.1.6 MAIN FEEDWATER LINE ISOLATION VALVES

The main feedwater line isolation valves are required to be OPERABLE to ensure that (1) feedwater is terminated to the affected steam generator following a steam line break and (2) auxiliary feedwater is delivered to the intact steam generator following a feedwater line break. If feedwater is not terminated to a steam generator with a broken main steam line, two serious effects may result: (1) the post-trip return to power due to plant cooldown will be greater with resultant higher fuel failure, and (2) the steam released to containment will exceed the design.

~~Due to removal of the main feed check valve from the plant design and its replacement with a second main feedwater line isolation valve, there is nothing other than the main feedwater line isolation valves to prevent back flow of AFW following a feed line break. This may result in a loss of condensate inventory and the potential for not being able to feed the steam generator.~~

~~The concern is the failure of one main feedwater line isolation valve to close with the other main feedwater line isolation valve in that line being inoperable (i.e., stuck open). It is thus desired to preclude operation for extended periods with a main feedwater line isolation valve known to be stuck in the open position.~~

The specified 5.15 second full closure time represents the addition of the maximum allowable instrument response time of 1.15 seconds and the maximum allowable valve stroke time of 4.0 seconds. These maximum allowable values should not be exceeded because they represent the design basis values for the plant.

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St. Lucie Unit 2
Docket No. 50-389
Proposed License Amendment
Main Feedwater Isolation Valves

L-94-139

When the main feedwater isolation valves (MFIVs) are closed or isolated, they are performing their required safety function, e.g., to isolate the main feedwater line. The 72 hour action completion time for one inoperable MFIV in one or more main feedwater lines takes into account the redundancy afforded by the remaining operable MFIVs, and the low probability of an event occurring during this time period that would require isolation of the main feedwater flow paths. The 4 hour action completion time for two inoperable MFIVs in the same feedwater line is considered reasonable to close or isolate the affected flowpath. It is based on operating experience and the low probability of an event that would require main feedwater isolation during this time period.

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