Perform Main Steam Line Isolation Functional Test – Alternate Path

Job Position(s): ☒ RO ☒ SRO

Source: ☐ New ☐ Bank ☒ Modified JP-OP-315-0105-003
(Facility ID No. for Bank or Modified)

K/A Reference: 239001.A4.01, Ability to manually operate and/or monitor MSIV's in the control room

Method of testing: ☐ Simulated/Walk-thru Performance [Classroom/Plant]

☒ Actual Performance [Simulator/Lab]

Type: (Check all that apply)

☐ Administrative Topics	☒ Control Room Systems	☐ In-Plant Systems
☒ Alternate Path	☐ Emergency/Abnormal	☐ ESF
☐ Low-Power/Shutdown	☐ Time Critical	

Task Standard: Recognize failure of RPS Trip System A to actuate when B2103-F022A, Inboard MSIV Line A is closed, AND releases TEST pushbutton before an automatic scram is initiated on high flow.

Validation Time: 30 Minutes

Simulator Setup:

Reset simulator to a full power IC.

Simulator Operator will be required to communicate as the operator in the relay room and use Remote Functions to simulate removing fuse C71A-F3E (C71, RF 0453).

Required Materials:

Marked up copy of 24.137.01, Main Steam Isolation Channel Functional Test, with section 4.0 completed.

General References:

24.137.01, Main Steam Isolation Channel Functional Test

Initial Conditions:

You are an extra NSO on shift.

The plant is operating normally at full power.

24.137.01, Main Steam Isolation Channel Functional Test, is required to be performed to satisfy Tech Spec operability requirements.

All prerequisites (Section 4.0) have been completed for the surveillance. Operators have been briefed and are stationed in the Relay Room.

Initiating Cue:

Perform surveillance 24.137.01, Main Steam Isolation Channel Functional Test, beginning with section 5.1.

Performance Information

Critical Steps are annotated by "**c**" and italicized text.

	ELEMENTS	STANDARDS
	SIMULATOR OPERATOR PROMPT When requested to remove fuse C71A-F3E, ACTIVATE Remote Function C71, RF 0453 and report that fuse is removed.	
	5.1.1 Remove Fuse C71A-F3E (RR H11-P609, Fuse DD-F12) to simulate closure of B2103-F028B, Outboard MSIV Line B, and B2103-F022B, Inboard MSIV Line B, in A1 logic.	
	SIMULATOR OPERATOR PROMPT When asked to verify status of C71A-K3E "B" Vlv, report that it is de-energized.	
	5.1.2 Verify C71A-K3E "B" Vlv de-energized (dropped out). (RR H11-P609)	
	NOTE TO EVALUATOR Evaluator will serve as second operator to monitor Steam Flow Indication during the test.	
	NOTE: MSIV TEST pushbutton for the slow closure mode will only cause valve closure while pushbutton is depressed. **CAUTION:** During MSIV Slow Closing, station a second operator to closely monitor Main Steam Line Flow indication. If changes of greater than 10% Flow Reduction occur, release TEST pushbutton.	
c	*5.1.3 Place Test Mode Selector Outboard MSIV switch in SLOW (COP H11-P602).*	*Test Mode Selector Outboard MSIV switch in SLOW*
c	*5.1.4 Depress and hold TEST pushbutton for B2103-F028A, Outboard MSIV Line A, and verify B2103-F028A partially closes (COP-H11-P602) (BTP).*	*Depresses AND holds TEST pushbutton for B2103-F028A, Outboard MSIV Line A* *B2103-F028A partially closes.*
	5.1.5 Verify the following: 1. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, alarms. 2. Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, alarms.	1. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, alarms. 2. Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, alarms.

	ELEMENTS	STANDARDS
5.1.6	Verify four blue RPS Trip System A Pilot Scram Valve Solenoid lights are OFF (COP H11-P603).	Four blue RPS Trip System A Pilot Scram Valve Solenoid lights are OFF
c *5.1.7*	*Release TEST pushbutton for B2103-F028A, Outboard MSIV Line A, and verify B2103-F028A fully opens.*	*Releases TEST pushbutton for B2103-F028A, Outboard MSIV Line A* *B2103-F028A fully opens.*
5.1.8	Verify Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, is clear.	Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, is clear.
c *5.1.9*	*Reset Trip System A or B trip by placing SCRAM RESET SWITCH in GP 1/4 position then to GP 2/3 position* and verify: 1. Four blue RPS Trip System A Pilot Scram Valve Solenoid lights are ON (COP H11-P603). 2. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, is clear.	*1. Places SCRAM RESET SWITCH in GP 1/4 position then to GP 2/3 position.* *2. Four blue RPS Trip System A Pilot Scram Valve Solenoid lights are ON (COP H11-P603).* *3. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, is clear.*
c *5.1.10*	*Place Test Mode Selector Outboard MSIV switch in OFF (COP H11-P602).*	*Test Mode Selector Outboard MSIV switch in OFF.*

SIMULATOR OPERATOR PROMPT

DE-ACTIVATE Remote Function C71, RF 0453.

c 5.1.11	Place Test Mode Selector Inboard MSIV switch in SLOW (COP H11-P601).	Test Mode Selector Inboard MSIV switch in SLOW.

	ELEMENTS	STANDARDS
	NOTE TO EVALUATOR Evaluator will serve as second operator to monitor Steam Flow Indication during the test.	
	NOTE: MSIV TEST pushbutton for the slow closure mode will only cause valve closure while pushbutton is depressed. **CAUTION:** During MSIV Slow Closing, station a second operator to closely monitor Main Steam Line Flow indication. If changes of greater than 10% Flow Reduction occur, release TEST pushbutton.	
c	*5.1.12 Depress and hold TEST pushbutton for B2103-F022A, Inboard MSIV Line A,* and verify B2103-F022A partially closes (COP-H11-P601) (BTP).	*Depresses AND holds TEST pushbutton for B2103-F022A, Inboard MSIV Line A* *B2103-F022A partially closes.*
	EVALUATOR PROMPT IF requested, monitor Main Steam Line Flow and make reports as requested.	
c	5.1.13 Verify the following: 1. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, alarms. 2. Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, alarms.	Recognizes that annunciators 3D73 and 3D86 did NOT alarm as expected; AND *Releases TEST pushbutton when abnormal flow reduction is observed or reported.*
	5.1.14 Verify four blue RPS Trip System A Pilot Scram Valve Solenoid lights are OFF (COP H11-P603).	Observes that blue RPS Trip System A Pilot Scram Valve Solenoid lights remain illuminated.
	5.1.15 Release TEST pushbutton for B2103-F022A, Inboard MSIV Line A, and verify B2103-F022A fully opens.	Releases TEST pushbutton for B2103-F022A, Inboard MSIV Line A B2103-F022A fully opens.
	NOTE TO EVALUATOR Applicant should report abnormal test result to CRS, and request guidance on how to procede. Instruct applicant to complete steps 5.1.16 and 5.1.18 through 5.1.21 to return system to normal.	
	5.1.16 Verify Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, is clear.	Annunciator 3D86, MN STM LINE ISO VALVE CLOSURE CHANNEL TRIP, is clear.

	ELEMENTS	STANDARDS
5.1.17	Reset Trip System A or B trip by placing SCRAM RESET SWITCH in GP 1/4 position then to GP 2/3 position and verify:	1. Places SCRAM RESET SWITCH in GP 1/4 position then to GP 2/3 position.
	1. Four blue RPS Trip System A Pilot Scram Valve Solenoid lights are ON (COP H11-P603).	2. Four blue RPS Trip System A Pilot Scram Valve Solenoid lights are ON (COP H11-P603).
	2. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, is clear.	3. Annunciator 3D73, TRIP ACTUATORS A1/A2 TRIPPED, is clear.

SIMULATOR OPERATOR PROMPT

When asked to verify status of C71A-K3B "A" Vlv, report that it is energized.

5.1.18	Visually verify Relay C71A-K3B "A" Vlv is energized (picked up). (RR H11-P611)	Relay C71A-K3B "A" Vlv is energized (picked up).

SIMULATOR OPERATOR PROMPT

When requested to replace fuse C71A-F3E, report that fuse is removed.

5.1.19	Replace Fuse C71A-F3E (RR H11-P609, Fuse DD-F12).	Replace Fuse C71A-F3E

SIMULATOR OPERATOR PROMPT

When asked to verify status of C71A-K3E "B" Vlv, report that it is energized.

5.1.20	Visually verify Relay C71A-K3E "B" Vlv is energized (picked up) (RR H11-P609).	Relay C71A-K3E "B" Vlv is energized (picked up)
c *5.1.21*	*Place Test Mode Selector Inboard MSIV switch in OFF (COP H11-P601).*	*Test Mode Selector Inboard MSIV switch in OFF*

Terminating cue: Terminate JPM when applicant reports completion of step 5.1.21.

EXAMINEE CUE SHEET

Initial Conditions:

You are an extra NSO on shift.

The plant is operating normally at full power.

24.137.01, Main Steam Isolation Channel Functional Test, is required to be performed to satisfy Tech Spec operability requirements.

All prerequisites (Section 4.0) have been completed for the surveillance. Operators have been briefed and are stationed in the Relay Room.

Initiating Cue:

Perform surveillance 24.137.01, Main Steam Isolation Channel Functional Test, beginning with section 5.1.