TASK CONDITIONS:

1. You are an extra SRO on shift.
2. Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head.
3. The crew is currently performing 1BwFR-I.3 RESPONSE TO VOIDS IN REACTOR VESSEL.
4. Attempts to condense the vessel head void have been unsuccessful and the TSC has directed the crew to perform a direct vessel vent.
5. Current plant conditions are as follows:
   - Containment temperature (dry bulb) = 160ºF
   - Containment pressure = 3.5 psig
   - Containment hydrogen concentration =1%
   - RCS pressure = 1900 psig

INITIATING CUES:

1. The Shift Manager (Jon Doe) directs you to assist the Unit 1 SRO by calculating vessel vent time per 1BwFR-I.3, Attachment B.
2. Inform the Shift Manager when you have completed 1BwFR-I.3, Attachment B.

TASK TITLE: Determine Venting Time For Reactor Vessel Void

JPM No.:	S-108	REV:	NRC 09-1
Task No.:	S-FR-017	K/A No.:	2.1.25
Objective No.:	8D.FR-012-A	K/A IMP:	4.2

EXAMINEE: _____ SRO

EVALUATOR: _____ DATE:_____

The Examinee: PASSED _____ this JPM. TIME STARTED: _____

FAILED _____ TIME FINISHED:_____

JPM TIME:_____ MINUTES

CRITICAL ELEMENTS: **(*) 2, 3, 4, 5, 6** APPROX COMPLETION TIME: 10 MINUTES

CRITICAL TIME: **NA**

EVALUATION METHOD:

_**X**_ PERFORM

__ SIMULATE

LOCATION:

__ IN PLANT

_**X**_ SIMULATOR OR CLASSROOM

GENERAL REFERENCES:

1. 1BwFR-I.3, RESPONSE TO VOIDS IN REACTOR VESSEL, Rev 201.

MATERIALS:

1. 1BwFR-I.3, RESPONSE TO VOIDS IN REACTOR VESSEL.
2. Calculator

TASK STANDARDS:

1. Determine vessel venting time

TASK CONDITIONS:

1. You are an extra SRO on shift.
2. Unit 1 is recovering from an event that caused a suspected hydrogen bubble to accumulate in the reactor vessel head.
3. The crew is currently performing 1BwFR-I.3 RESPONSE TO VOIDS IN REACTOR VESSEL.
4. Attempts to condense the vessel head void have been unsuccessful and the TSC has directed the crew to perform a direct vessel vent.
5. Current plant conditions are as follows:
   - Containment temperature (dry bulb) = 160ºF
   - Containment pressure = 3.5 psig
   - Containment hydrogen concentration = 1%
   - RCS pressure = 1900 psig

INITIATING CUES:

1. The Shift Manager (Jon Doe) directs you to assist the Unit 1 SRO by calculating vessel vent time per 1BwFR-I.3, Attachment B.

2. Inform the Shift Manager when you have completed 1BwFR-I.3, Attachment B.

RECORD START TIME: _____

	PERFORMANCE STEP	STANDARD	CIRCLE APPLICABLE
1.	Refer to 1BwFR-I.3 **NOTE: Provide copy of 1BwFR-I.3 to examinee.**	Refer to 1BwFR-I.3	SAT UNSAT N/A **Comments:**
***2.**	**Calculate containment temperature in Rankine.**	Perform Attachment B, step 1 • Enter 160 in ºF blank. • Add 460 to 160 and enter 620 in ºR blank.	SAT UNSAT N/A **Comments:**
***3.**	**Calculate containment air volume based on current temperature and pressure.**	Perform Attachment B, step 2 • Enter 620 in ºR blank. • Enter 3.5 in CNMT press blank. • Perform calculation and enter 2,750,968 (or approx. 2.75E6) in ft^3 blank.	SAT UNSAT N/A **Comments:**
***4.**	**Calculate maximum hydrogen volume that can be vented keeping cnmt concentration below 3%.**	Perform Attachment B, step 3 • Enter 1 in cnmt hydrogen conc. blank. • Enter enter 2,750,968 (or approx. 2.75E6) in ft^3 blank • Perform calculation and enter 55,019 (or approx. 5.5E4) in ft^3 blank.	SAT UNSAT N/A **Comments:**
***5.**	**Determine hydrogen flow rate from RCS vent.**	Perform Attachment B, step 4 • Plot RCS pressure on Figure 1BwFR I.3-4 and determine flow rate will be 5850 scfm (range of 5800 to 5900) • Enter flow rate in step 4 SCFM blank.	SAT UNSAT N/A **Comments:**
***6.**	**Calculate maximum venting time.**	Perform Attachment B, step 5 • Enter 55,019 (or approx. 5.5E4) in ft^3 blank. • Enter 5850 (5800 – 5900) in SCFM blank. • Calculate minutes and enter 9.4 (range of 9.3 to 9.5) in minutes blank.	SAT UNSAT N/A **Comments:**

	PERFORMANCE STEP	STANDARD	CIRCLE APPLICABLE
7.	Report to SM results of venting calculation.	Notify SM that RCS venting can be performed for approx. 9.4 minutes.	SAT UNSAT N/A **Comments:**

CUE: THIS COMPLETES THIS JPM.

RECORD STOP TIME: _____

COMMENTS:

NOTE: JPM can be performed in any location. If JPM is performed in simulator, inform examinee to use given information in cue.

SIMULATOR SETUP INSTRUCTIONS

- N/A

COMMENTS: