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POST ACCIDENT RB HYDROC	GEN CONTROL
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#### 1.0 PURPOSE

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This procedure provides guidance for the Accident Assessment Team (AAT) and other emergency response personnel in developing appropriate actions to monitor and control post-accident hydrogen concentration in the Reactor Building (RB) to protect the health and safety of the general public and Crystal River Energy Complex personnel during an emergency at CR-3.

- 2.0 REFERENCES
- 2.1 Developmental References
- 2.1.1 FSAR Chapter 14 Appendix B
- 2.1.2 MAR 91-05-03-01, "Hydrogen Purge Redundancy Restoration"
- 2.1.3 MAR 93-05-03-02, "Hydrogen Purge Redundancy Restoration, Elect. & I&C"
- 2.1.4 CALC M-99-0051, "Mission Dose Assessment"
- 2.1.5 CALC I-90-0013, "Post Accident Reactor Building Hydrogen Purge Flow Accuracy"
- 2.1.6 CALC M-90-0056, "Hydrogen Mini Purge Pressure Loss"
- 2.1.7 CALC M-99-0052, "Zone Environmental Radiation Dose for LOCA"
- 2.1.8 CALC N-00-0002, "Public And Control Room Dose From A LOCA Using The Alternative Source Term"
- 2.1.9 CALC M-85-1004, "H2 Generation Rate"
- 2.1.10 CALC I-90-0023, "RB Hydrogen Concentration Loop Accuracy"

## 3.0 PERSONNEL INDOCTRINATION

## 3.1 Definitions

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- 3.1.1 Off-shore winds winds originating from NNE to SE sectors (011.2° to 146.3°). The most common time for this to occur is midnight.
- 3.2 Responsibilities
- 3.2.1 Emergency Coordinator (EC) or designee
  - Approves RB purge prior to initiation (Enclosure 6).
  - Ensures coordination with off-site agencies prior to initiation of RB purges.

#### 3.2.2 Accident Assessment Team

- Tracks RB conditions and predicts time for RB purge initiation.
- Monitors the effectiveness of purge methods in hydrogen removal.
- Informs the EC of RB conditions and the status of pre-planned releases
- Assign a Purge Release Authorization Form number (Enclosure 6).

#### 3.2.3 Dose Assessment Team

- Monitors meteorological conditions and predicts when off-shore winds should exist.
- Projects off-site doses for proposed RB purges.

#### 3.2.4 Procurement Representative

- Ensures required air compressors are delivered on-site within the required time.
- Ensures support materials (fuel, oil, etc.) are available to support portable compressor operations.
- 3.2.5 <u>Emergency Repair Team</u>
  - Connects temporary air compressors when delivered.
  - Installs LR-82-FE, LR-83-FE, LR-82-FI, and LR-83-FI in accordance with MP-815, Installation of Post Accident Hydrogen Purge Monitors.

#### 3.2.6 Radiation Monitoring Team

- Evaluates actual plant radiological conditions and determine routes to be used (see Enclosure 9).

#### 3.2.7 Operations

Performs RB purge per Enclosure 7.

## 3.3 Limits and Precautions

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- 3.3.1 All hydrogen concentration values referenced in this procedure are presented in % by volume as indicated on the hydrogen analyzers.
- 3.3.2 Maintain RB hydrogen concentration < 3.6% to provide adequate margin below the lower flammability limit of 4.1% for hydrogen in air.
- 3.3.3 Travel through radiation areas should be as shown in Enclosure 9 unless otherwise directed by the emergency RWP.
- 3.3.4 Purging should be performed under favorable meteorological conditions (off-shore winds) whenever possible.
- 3.3.5 RB pressure must be carefully controlled during purge evolutions to prevent ES actuations from high RB pressure.
- 3.3.6 The purging criteria established by this procedure is not valid during Severe Accidents.
- 3.3.7 Mission dose calculations credit 10 days of radioactive decay when determining the dose received for performance of local actions. Taking local actions prior to this time may result in excessive radiation exposure.
- 3.3.8 If a predictable pattern of off-shore winds is identified, consideration should be given to performing a series of intermittent releases during periods when off-shore winds are present.
- 3.3.9 The AAT is responsible for overall implementation of this procedure. TSC teams responsible for performing the specific actions listed in the enclosures of this procedure are denoted at the end of each step as applicable.

INSTRUCTIONS

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4.0

## NOTE Enclosure 11, "Hydrogen Purge System Flow Diagram," depicts the hydrogen Purge flow paths established by this procedure. Enclosure 11 is provided for information only. 4.1 IF RCS LOCA conditions exist, THEN MONITOR RB hydrogen concentration in accordance with Enclosure 1, Hydrogen Monitoring, of this procedure. IF at any time RB hydrogen concentration $\geq$ 1%, 4.2 THEN PERFORM the following: Perform Enclosure 2, Initial Preparations For Purging, in this procedure. Notify Procurement Representative to contact Hydrogen Recombiner vendor to . coordinate preliminary transportation plan and schedule for delivery of recombiner. Refer to EM-104. DAT/AAT evaluate plant conditions and equipment availability to determine if a Hydrogen Recombiner will be required. Notify Procurement Representative if recombiner is required. 4.3 WHEN at any time RB purge compressors arrive on site, AND radiological conditions permit, THEN PERFORM Enclosure 3, Portable Compressor Installation, of this procedure. 4.4 WHEN RB hydrogen concentration $\geq$ 3.3%, AND radiological conditions permit, THEN PERFORM Enclosure 4, Prerequisite Field Actions, of this procedure. 4.5 WHEN RB hydrogen concentration $\geq$ 3.4%, THEN PERFORM Enclosure 5, RB Pressurization For Hydrogen Purge, of this procedure. 4.6 WHEN RB hydrogen concentration $\geq$ 3.5%, THEN begin Enclosure 6, Purge Release Authorization Form, of this procedure. 4.7 WHEN any of the following conditions exist: **\_\_** RB H<sub>2</sub> concentration $\geq$ 3.5% for $\geq$ 24 hours RB H<sub>2</sub> concentration $\geq$ 3.5% and off shore winds exist RB H<sub>2</sub> concentration $\geq$ 3.6%, THEN PERFORM Enclosure 7, Purging RB, of this procedure. 4.8 WHEN RB purge is stopped, THEN GO TO Step 4.6 or this procedure.

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ENCLOSURE 1 (Page 1 of 2)

# HYDROGEN MONITORING

STATUS				
•	LOC	CA Conditions Exist		
		ACTIONS	DETAILS	
1.1		Ensure one H <sub>2</sub> analyzer is aligned and placed in service (Ops).	<ul> <li>Ensure applicable steps of EOP-14, Enclosure 2, PPO Post Event Actions, have been completed for H<sub>2</sub> analyzers.</li> </ul>	
1.2		Plot RB H <sub>2</sub> concentration on Enclosure 8 of this procedure (AAT).	<ul> <li>Obtain H<sub>2</sub> concentrations from either of the following:</li> <li> EOP-14, Enclosure 21, RB Hydrogen Monitor Log.</li> <li> RECALL</li> </ul>	
1.3		Project when RB H <sub>2</sub> concentration will exceed action levels of this procedure (AAT).	<ul> <li>Use H<sub>2</sub> concentration plotted on Enclosure 8 of this procedure.</li> <li>Extrapolate to estimate time when H<sub>2</sub> concentration will reach procedure action levels.</li> </ul>	
		·	Action Level       Date       Time $H_2 \ge 1\%$ $H_2 \ge 3.3\%$ $H_2 \ge 3.4\%$ $H_2 \ge 3.5\%$ $H_2 \ge 3.6\%$	

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#### HYDROGEN MONITORING (Cont'd)

#### <u>ACTIONS</u>

IF at anytime H<sub>2</sub> concentration is

Accident Assessment Team

Coordinator (AAT).

 $\geq$  an action level of this procedure, THEN immediately notify the

:

1.4

#### DETAILS

• Action levels based on RB H<sub>2</sub> concentrations.

Action Level Required Action

H₂≥1%	See step 4.2
H₂≥3.3%	See step 4.4
H₂≥3.4%	See step 4.5

 $H_2 \ge 3.5\%$  See step 4.6

1.5 \_\_\_\_ Continue monitoring RB H<sub>2</sub> concentration (AAT).

- Plot RB H<sub>2</sub> concentration on Enclosure 8 of this procedure every 8 hours.
- Perform Step 1.3 of this Enclosure every 8 hours.

## INITIAL PREPARATIONS FOR PURGING

	ST	TATUS
• RE	$H_2$ Concentration $\geq 1\%$	
	ACTIONS	DETAILS
1.1	Notify the Procurement Representative, Radiation Controls Coordinator, Repairs Coordinator and Control Room to begin preparations for RB purge.	<ul> <li>Review this procedure for:         <ul> <li>Procurement of tools and equipment.</li> <li>Selection of emergency team personnel.</li> <li>Assigning Operations support to the OSC.</li> <li>Initiation of reentry process per EM-104.</li> <li>Collection of radiological and meteorological data.</li> <li>Review of dose projection process.</li> </ul> </li> </ul>
1.2	Evaluate plant radiological conditions and determine routes to be used to perform Enclosures 2, 3, 4, 5, and 7 (RMT).	<ul> <li>Refer to Enclosure 9 for locations of require actions/components and suggested routes.</li> </ul>
1.3	Notify off-site sources to obtain portable air compressors (Procurement Representative).	<ul> <li>Obtain 3 or more air compressors from or of the following off-site sources:</li> <li>Compressed Air Systems, Telephone (800) 626-8177 OR (813) 626-8177 (Tampa)</li> <li>Air Components &amp; Equipment, Inc., Telephone (813) 621-3087 (Tampa)</li> <li>Obtain air compressors capable of 225 scfm minimum each for continuous purge (rated exhaust flow) and rated discharge TEMP &lt; 150°F.</li> </ul>

1.4 \_\_\_\_ Ensure all CCHE habitability breaches are sealed (ERT).

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ENCLOSURE 2 (Page 2 of 2)

# PREPARATIONS FOR RB HYDROGEN PURGE (Cont'd)

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ACTIONS			DETAILS			
1.5		Monitor meteorological conditions to predict off-shore wind cycle (DAT).	<ul> <li>Off-shore winds originate from NNE to SE sectors (011.2° to 146.3°).</li> <li>Most common time for off-shore winds is midnight.</li> </ul>			
1.6	-	Ensure the purge flow instrumentation cart is properly staged and equipped (ERT).	<ul> <li>Refer to MP-815 for location of equipment.</li> <li>DO NOT install purge instruments until Enclosure 4 is performed.</li> </ul>			
1.7		Ensure power is available to LR-82-FI and LR-83-FI receptacle (OPS).	<ul> <li>RX MCC 3B2 is energized.</li> <li>RX MCC 3B2, BKR 8AR closed.</li> <li>ACDP-20, BKR 12 closed. (143 ft AB near elevator)</li> </ul>			

1.8 \_\_\_\_ Notify the Accident Assessment Team Coordinator that Enclosure 2 is complete (AAT).

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## ENCLOSURE 3 (Page 1 of 2)

# PORTABLE COMPRESSOR INSTALLATION

## STATUS

- Purge Compressors Are On Site
- Hydrogen Concentration ≥1%

# <u>ACTIONS</u>

1.1 <u>Consult Radiation Monitoring</u> Team to determine routes and precautions to be used during compressor installation (ERT).

- 1.2 \_\_\_\_ Connect portable air compressors (ERT).
- \_\_\_\_ DO NOT open LRVs at this time.
- \_\_\_\_ Indicate LRVs to which portable air compressors are connected.
- \_\_\_\_ Preferred RB portable compressor connections (119 ft IB outside west wall):

DETAILS

Refer to Enclosure 9 for locations of required

actions/components and suggested routes.

LRV-11	LRV-16
LRV-12	LRV-17
LRV-13	LRV-18
LRV-14	LRV-19
LRV-15	LRV-20

 Alternate - H<sub>2</sub> recombiner connections (119 ft IB outside west wall): (adapters in stores – CAT ID # 0001260356)

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LRV-92 (Pen 125)	
LRV-90 (Pen 121)	
LRV-94 (Pen 125)	
LRV-88 (Pen 122)	

ENCLOSURE 3 (Page 2 of 2)

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# PORTABLE COMPRESSOR INSTALLATION (Cont'd)

ACTIONS		ACTIONS	DETAILS		
1.3		Ensure plant personnel are familiar with the operation of the portable compressors (OPS/ERT).			
1.4		Obtain support materials for portable compressors (Procurement Representative).	<ul> <li>Determine portable compressor fuel and oil consumption rate from compressor vendor.</li> <li>Ensure sufficient fuel and oil supplies are available to support compressor operation.</li> </ul>		
1.5		Notify the Accident Assessment Team Coordinator that Enclosure 3 is complete (OPS/ERT).			

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# ENCLOSURE 4 (Page 1 of 2)

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# PREREQUISITE FIELD ACTIONS

	S	TATUS
• RE	$H_2$ Concentration $\geq 3.3\%$	
	ACTIONS	DETAILS
1.1	Consult Radiation Monitoring Team to determine routes and precautions to be used while performing RB Purge Field Actions (ERT).	<ul> <li>Refer to Enclosure 9 for locations of required actions/components and suggested routes.</li> </ul>
1.2	Defeat all starting interlocks on AHF-7A and 7B (OPS).	<ol> <li>Obtain key 92 from the Control Room.</li> <li>Select RB exhaust fan permissive bypass switches to the "Emergency" position . (119 ft IB East Door)</li> <li>AHF-7A, Ventilation MCC 3A-10C</li> </ol>
		AHF-7B, Ventilation MCC 3B-9C
1.3	Open RB exhaust dampers for emergency operation (OPS).	<ul> <li> Select AHV-77 to the "EMERGENCY OPERATION OF AHD-95, AHD-96, AN AHD-94" position. (143 ft AB Ventilation Equipment Area, HVAC-13)</li> </ul>
		<ul> <li>Select AHV-78 to the "EMERGENCY OPERATION OF AHD-97, AHD-98, AN AHD-94" position. (143 ft AB Ventilation Equipment Area, HVAC-13)</li> </ul>

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# PREREQUISITE FIELD ACTIONS (Cont'd)

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that Enclosure 4 is complete

(OPS/ERT).

	ACTIONS		DETAILS
1.4	 Ensure RM-A1 is in service (OPS/DAT).	•	Ensure RM-A1 pump is running with path to and from pump (143 ft AB).
		•	Ensure RM-A1 monitors have power aligned.
		•	Ensure the following MCB annunciator links are closed:
			1712
			1713
			1714
		•	Adjust RM-A1 gas channel "HIGH" alarm setting potentiometer to maximum (clockwise).
		•	Ensure LMH controller associated with RM-A1 is in "AUTO".
	 	<u>.</u>	<u></u>
1.5	 Notify Repairs Coordinator to obtain and install flow instrumentation (ERT).	•	CONCURRENTLY PERFORM MP-815, Installation of Post Accident H <sub>2</sub> Purge Flow Instruments.
1.6	 <u>WHEN</u> H <sub>2</sub> Purge Flow Instruments are installed <u>THEN</u> notify the Accident Assessment Team Coordinator		

.

## **RB PRESSURIZATION FOR HYDROGEN PURGE**

#### STATUS

- RB H<sub>2</sub> Concentration  $\geq$  3.4%
- Portage Air Compressors are installed.

## <u>ACTIONS</u>

- 1.1 <u>Consult Radiation Monitoring</u> Team to determine routes and precautions to be used while performing RB Pressurization (ERT).
- 1.2 <u>IF</u> portable air compressors were connected to RB portable compressor connections, <u>THEN</u> start air supply to RB and establish and maintain RB PRESS at  $\approx$  2 psig (ERT/Ops).
- 1 \_\_\_\_ Start portable air compressors.

DETAILS

Refer to Enclosure 9 for locations of required

actions/components and suggested routes.

2 Open isolation valves for operating air compressors (119 ft IB west door):

LRV-11	LRV-16
LRV-12	LRV-17
LRV-13	LRV-18
LRV-14	LRV-19
LRV-15	LRV-20

- 3 \_\_\_\_ Open LRV-36 "AIR SUPPLY TO PENETRATION 121 ISO" (119 ft IB south of A MSSVs).
- 4 \_\_\_\_ Unlock and open LRV-50 "PENETRATION 121 ISO" (119 IB ft south of PZR Htr MCC 3B overhead).
- 5 \_\_\_\_\_ Adjust LRV-26
   "LRV-24 BYPASS"
   (119 ft IB south of A MSSVs) to maintain RB PRESS at ≈ 2 psig.

#### RB PRESSURIZATION FOR HYDROGEN PURGE (Cont'd)

#### <u>ACTIONS</u>

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1.3 <u>IF</u> portable air compressors were connected to  $H_2$  recombiner connections, <u>THEN</u> start air supply to RB and establish and maintain RB PRESS at  $\approx$  2 psig (ERT/Ops).

#### DETAILS

- 1 \_\_\_\_ Start portable air compressors.
- 2 Open H<sub>2</sub> recombiner connection isolations for operating air compressors (119 ft IB):

LRV-87 (unlock)	LRV-88
LRV-89 (unlock)	LRV-90
LRV-91 (unlock)	LRV-92
LRV-93 (unlock)	LRV-94

- 3 \_\_\_\_\_ Adjust the compressor output to establish and maintain RB PRESS at  $\approx$  2 psig.
- 1.4 <u>WHEN</u> RB PRESS is being maintained at ≈ 2 psig, <u>THEN</u> notify the Accident Assessment Team Coordinator that Enclosure 5 is complete (OPS/ERT).

# ENCLOSURE 6

PURGE RELEASE AUTHORIZATION FORM

PRAF #
COMPLETED BY THE ACCIDENT ASSESSMENT TEAM:
1) Date/Time accident started:/
2) Projected Date/Time for purge start:/
3) Time after accident for purge start: (hrs) [1 minus 2]
4) Error Corrected Flowrate based on time after accident (see Enclosure 10)(scfm)
Completed By: Date:
COMPLETED BY THE DOSE ASSESSMENT TEAM:
Containment Atmosphere Activity (µCi/cc)
Meteorological Conditions used in projection:
Wind Direction Wind Speed Stability Class
Projected purge duration = 1440 minutes (1 day)
RADDOSE-IV Projected Dose (REM) based on Error Corrected Flow rate:
Site Boundary 2 miles 5 miles 10 miles
RADDOSE-IV Projected Curies to be released: Noble Gas Iodine
Completed By: Date:
COMPLETED BY EMERGENCY COORDINATOR:
EOF Director notified:
EOF Director notified: Date/Time/
Ensure the EOF Director has coordinated with the State and local government officials prior to initiating purge.
EMERGENCY COORDINATOR APPROVAL / Sign/Date

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# ENCLOSURE 7 (Page 1 of 6)

## PURGING RB

	ST	ATUS
• 6	RB Purge Is Required	
	ACTIONS	DETAILS
1.1 _	Ensure Enclosure 2, 3, 4, and 5 of	Enclosure 2 complete
	completed (AAT).	Enclosure 3 complete
		Enclosure 4 complete
		Enclosure 5 complete
1.2	Determine required purge flow rate (AAT/DAT).	<ul> <li>IF H<sub>2</sub> purge has been previously performe <u>THEN</u> use flows from previous purge.</li> <li>IF H<sub>2</sub> purge has <u>NOT</u> been previously performed, <u>THEN</u> refer to Enclosure 10 to determine flows:</li> </ul>
		Required Purge Flow sc
		Error Corrected Flow sc
		Record Error Corrected Flow on Enclosure 6.
1.3 _	Consult Radiation Monitoring Team to determine routes and precautions to be used while performing RB Pressurization (ERT).	<ul> <li>Refer to Enclosure 9 for locations of required actions/components and suggested routes.</li> </ul>
1.4 _	<u>WHEN</u> Enclosure 6, Purge Release Authorization Form is complete and approved by the EC,	

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# ENCLOSURE 7 (Page 2 of 6)

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# PURGING RB (Cont'd)

•	EC has	s approved Purge Release Authorizatio	n Form, Enclosure 6
1.5		ACTIONS Notify the EC and the EOF Director that RB hydrogen purge is commencing (AAT).	DETAILS
1.6		Start RB purge Exhaust fan (OPS).	<ul> <li>Start at least one RB Exhaust fan:</li> <li>AHF-7A</li> <li>AHF-7B</li> </ul>
1.7		IF RB purge has previously been performed, <u>THEN</u> open purge isolation valves associated with the previously adjusted throttle valve (OPS).	<ul> <li>IF LRV-121 was previously throttled <u>THEN</u> Open A Train isolation valves.</li> <li> LRV-70</li> <li> LRV-71</li> <li>IF LRV-123 was previously throttled <u>THEN</u> Open B Train isolation valves.</li> <li> LRV-72</li> </ul>

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#### PURGING RB (Cont'd)

## <u>ACTIONS</u>

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1.8 <u>IF</u> purge has <u>NOT</u> previously been performed, <u>THEN</u> establish required RB purge flow (OPS).

#### DETAILS

- 1 \_\_\_\_ Record "Required Purge Flow" from Step 1.2 of this enclosure.
  - Required Purge Flow \_\_\_\_\_ scfm
- 2 <u>IF A Train purging is desired,</u> <u>THEN perform the following in order:</u>
  - \_\_\_\_ Open LRV-70
  - \_\_\_\_ Open LRV-71
  - Throttle LRV-121 to obtain "Required Purge Flow" on flow indicator LR-82-Fl (143 ft AB Ventilation Room).
  - \_\_\_\_ Record reading from LR-82-FI

scfm

- 3 \_\_\_\_ IF B Train purging is desired, THEN perform the following in order:
  - \_\_\_\_ Open LRV-72
  - \_\_\_ Open LRV-73
  - Throttle LRV-123 to obtain "Required Purge Flow" on flow indicator LR-83-FI (143 ft AB Ventilation Room).

\_ Record reading from LR-83-FI

scfm

ENCLOSURE 7 (Page 4 of 6)

## PURGING RB (Cont'd)

#### <u>ACTIONS</u>

1.9 \_\_\_\_ Maintain RB PRESS constant at ≈ 2 psig (OPS).

:

#### DETAILS

- IF portable air compressors were connected to RB portable compressor connections, <u>THEN</u> adjust LRV-26 "AIR SUPPLY TO PENETRATION 121 CONTROL BYPASS" (119 ft IB south of A MSSVs) to maintain RB PRESS at ≈ 2 psig.
- IF portable air compressors were connected to H₂ recombiner connections, <u>THEN</u> adjust the compressor output to maintain RB PRESS at ≈ 2 psig.

## PURGING RB (Cont'd)

#### **ACTIONS**

\_\_\_\_

1.10 \_\_\_\_\_ WHEN all of the following exist:

-

\_\_\_ RB H₂ Concentration is ≤ 3.5% \_\_\_ EC approves termination

THEN stop RB purge (OPS/ERT).

1 Ensure the following valves are closed:

A Train	B Train
LRV-70	LRV-72
LRV-71	LRV-73

DETAILS

2 Ensure RB exhaust fans are stopped:

\_\_\_\_ AHF-7A

\_\_\_\_ AHF-7B

- 3 <u>IF portable air compressors are connected</u> to RB portable compressor connections, <u>THEN</u> close the following valves:
  - LRV-50 "PENETRATION 121 ISO" (119 ft IB south of PZR Htr MCC 3B overhead)
  - LRV-36 "AIR SUPPLY TO PENETRATION 121 ISO" (119 ft IB south of A MSSVs)
- 4 <u>IF</u> portable air compressors are connected to H<sub>2</sub> recombiner connections, <u>THEN</u> close the following valves:

LRV-87	LRV-88
LRV-89	LRV-90
LRV-91 <sup>.</sup>	LRV-92
LRV-93	LRV-94

5 \_\_\_\_ Stop portable air compressors.

ENCLOSURE 7 (Page 6 of 6)

# PURGING RB (Cont'd)

## **ACTIONS**

2

# DETAILS

1.11 \_\_\_\_ Notify the Accident Assessment Team Coordinator that RB purge is secured.



## **RB HYDROGEN CONCENTRATION TREND**

EM-225A

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**ENCLOSURE 8** 



ACCESS ROUTES

119' EL. INTERMEDIATE BUILDING

EM-225A

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ENCLOSURE 9 (Page 1 of 4)

ENCLOSURE 9 (Page 2 of 4)

# ACCESS ROUTES (Cont'd)



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## ACCESS ROUTES (Cont'd)



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# ENCLOSURE 9,, (Page 4 of 4)







## CONTINUOUS PURGE FLOW RATES AFTER A LOCA



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Rev. 8

## HYDROGEN PURGE SYSTEM FLOW DIAGRAM



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ENCLOSURE 11

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# Summary of Changes

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SECTION	CHANGE
1.0	Changed the coversheet to reflect the change to Progress Energy
4.0	Changed action words to all caps to conform to writer guide.
Enclosure 3 Step 1.2	Changed FIMIS # to CAT ID Number for PassPort implementation. (Ref NTM 53999/17)
Enclosure 4 step 1.3	Changed the details to reflect the labeling of HVAC-13, HVAC Control Cabinet 13. (Ref NCR 73431)
Enclosure 10	Revised required and error corrected purge flow rates to reflect changes in calc M- 85-1004 revision due power upgrade from 2544 to 2568 MWth. (Ref. NTM 73800)