#### JOB PERFORMANCE MEASURE SETUP SHEET

System:	Fire Protection
Time Critical:	No
Alternate path:	No
Applicability:	RO/SRO
Safety Function:	8 - Plant Service Systems
Setting:	Plant (RRA)
Validated:	15 minutes
References:	SOI-P54 (WTR) Rev 16
Task Standard:	Initiate Deluge manually on AEGTS charcoal plenum per SOI- P54(WTR)
Task #:	286-515-04-04 Perform Local Manual Initiation (Manual-Electric Initiation for M15) of a Charcoal Filter Plenum Deluge System
Required Material:	SOI-P54 (WTR), Fire Protection System – Water Section 7.1
K / A Data:	600000 AK1.02 Knowledge of the operation applications of the
	following concepts as they apply to Plant Fire On Site: Fire Fighting
	2.9/3.1

- 1. <u>Setup Instructions</u>: Determine which AEGTS is off-service then markup JPM (including Cue Sheet) for the off-service train.
- 2. <u>Location / Method</u>: Plant / Simulation
- 3. <u>Initial Condition</u>: A fire has been detected in the A(B) Annulus Exhaust Gas Treatment charcoal plenum. The A(B) AEGTS train has been shutdown.
- 4. <u>Initiating Cue</u>: The Unit Supervisor directs you as the Field Supervisor to manually initiate deluge on the A(B) Annulus Exhaust Gas Treatment charcoal plenum.

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Candidate: \_\_\_\_\_

#### JPM BODY SHEET

<u>Standard:</u> Performer obtains or simulates obtaining all materials, procedures, tools, keys, radios, etc... before performing task.

<u>Standard:</u> Performer follows management expectations with regards to safety and communication standards.

# <u>Step 1</u>

# **SOI-P54(WTR), FIRE PROTECTION SYSTEM - WATER**

## 7.1 <u>Emergency/Manual Deluge Initiation (Charcoal Filter Plenums)</u>

NOTES Attachment 10 contains a listing of the components used in this section. The following section may be performed by the Fire Brigade, Fire Protection Personnel, Operators or other individuals as required.

# CAUTION

If the position switch plug on M33-D001 PLEMUM DELUGE ISOL 0P54F6361 is disconnected the IB SUB-EXHAUST FAN M33-C003 will trip.

4.1.1 REFER TO the applicable SOI and SHUTDOWN the affected HVAC train.

Standard:	The Operator confirms the AEGTS A(B) train is shutdown.
Instructor Cue:	1. If asked, the AEGTS A(B) train is shutdown
Notes:	Per Initial Conditions, the train was shutdown
SAT UN	SAT
Comment(s):	

# Step 2

7.1.2 OPEN the deluge system Supply Isolation Valve. A - 1P54-F1070 B - 1P54-F830

Critical Step:	Operator refers to Attachment 10 to obtain correct valve number and simulates opening the Supply Isolation valve.
Instructor Cue:	The Supply Isolation Valve is Open.
	If asked, no flow noise is heard.
Notes:	None
SAT UN	SAT
Comment(s):	

# <u>Step 3</u>

 7.1.3 IF NOT initiating the IB Sub-Exhaust System, THEN OPEN the deluge system Manual Initiation Valve.
 A - 1P54-F1074
 B - 1P54-F834

<u>Critical Step</u> :	Operator refers to Attachment 10 to obtain correct valve number and simulates opening the Manual Initiation valve.
Instructor Cue:	The Manual Initiation Valve is Open.
	If asked, flow noise is heard.
Notes:	None
SAT UN	NSAT
Comment(s):	

# Step 4

7.1.4 VERIFY the Plenum Drn Vlv has opened. A - 1M15-F100A B - 1M15-F100B

Standard:	Operator refers to Attachment 10 to obtain correct valve number and verifies the Plenum Drn Vlv has opened by observing the stem nut.
Instructor Cue:	None
Notes:	The drain value is open if the flats on the stem nut are parallel to the flow path and closed if perpendicular to the flow path.
	Terminate JPM
SAT UN	SAT
Comment(s):	

**Terminating Cue:** Manual deluge on AEGTS charcoal plenum has been initiated per SOI-P54 section 7.1.

 Evaluation Results:
 SAT\_\_\_\_\_

End Time \_\_\_\_\_

Γ

# JPM CUE SHEET

INITIAL CONDITIONS:	A fire has been detected in the Annulus Exhaust Gas Treatment charcoal plenum. The AEGTS train has been shutdown.
INITIATING CUE:	The Unit Supervisor directs you as the Field Supervisor to manually initiate deluge on the Annulus Exhaust Gas Treatment charcoal plenum.

#### Rev 0 JOB PERFORMANCE MEASURE SETUP SHEET

System:	C61 RSD
Time Critical:	No
Alternate Path:	No
Applicability:	RO/SRO
Safety Function:	7 - Instrumentation
Validated Time:	23 Minutes
References:	IOI-11 rev 26
Required Material	IOI-11 - Shutdown From Outside Control Room
	1P42-F665A actuator picture
	EF1A09-S internal pictures
Task:	007-516-04-01 Perform Control Room Isolation
Task Standard:	Isolate control room per IOI-11 Att 20.
K/A:	295016 – AA1.07 Ability to operate and/or monitor the following as they apply to Control Room Abandonment: Control
	room/local control transfer mechanisms. Importance: RO 4.2 SRO 4.3

1. <u>Setup Instructions</u>: Print pages 7 – 9 on a color printer.

- 2. <u>Location / Method</u>: Plant / Simulation
- 3. <u>Initial Condition</u>: There was a fire in Control Room. ONI-C61 actions are complete. Reactor is Shutdown. IOI-11 has commenced. All divisional buses have power.
- 4. <u>Initiating Cue</u>: The Unit Supervisor directs you as the Reactor Operator to perform IOI-11 Attachment 20 CONTROL ROOM ISOLATION steps 4.1 through 4.5.

Start Time \_\_\_\_\_ End Time \_\_\_\_\_

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<u>Standard</u>: Performer obtains or simulates obtaining all materials, procedures, tools, keys, radios, etc... before performing task.

<u>Standard</u>: Performer follows management expectations with regards to safety and communication standards.

#### Step 1

#### **IOI-11 - Shutdown From Outside Control Room**

#### ATTACHMENT 20 - Control Room Isolation

NOTES

- This attachment shall be performed following a Control Room fire.
- One licensed and one non-licensed operator should be assigned to perform the following actions; this attachment should accompany the operators.

## 3.0 PREREQUISITES

- 3.1 OBTAIN the following equipment from the Remote Shutdown Room toolbox:
  - Flashlights (2)
  - screwdriver
  - large fuse pullers
  - fuse tester
  - electrical tape
  - P47 chiller key
  - FRS-R 0.8 amp fuses (9)
  - Shawmut OT5 fuse (1)

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Standard:	Identifies the location of the above equipment.	
Instructor Cue:	Operator has all required equipment	
Notes:	None	
SAT UN	SAT	
Comment(s):		

# OT-3701-C61\_006\_RO <u>Step 2</u>

- 4.0 PROCEDURE
- 4.1 TAKE the following transfer switches to EMERG at MCC EF1A07:

CMPT	Component	Pos.
-Е	1B21-F019 • 1C61-S200 • 1C61-S201	Х
-Y	1G33-F004 • 1C61-S202 • 1C61-S203	Х
-XP	1P57-F015A • 1C61-S157 • 1C61-S158	0
-XR	1P57-F020A • 1C61-S150 • 1C61-S151	Ο

Critical Step:	Operator simulates taking the above transfer switches to emergency.	
<b>Instructor Cue:</b>	When transfer switches are in Emergency:	
	1. 1B21-F019 – Green light ON Red light OFF	
	2. 1G33-F004 – Green light ON Red light OFF	
	3. 1P57-F015A – Green light OFF Red light ON	
	4. 1P57-F020A – Green light OFF Red light ON	
Notes:	None	

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SAT UNSAT	
Comment(s):	

4.2 OPEN the RHR A HX's FIRST VENT TO SUPR POOL disconnect at EF1B07-FF. 1E12-F074A

Critical Step:	Critical Step: Operator simulates opening EF1B07 FF	
Instructor Cue:	Disconnect open.	
Notes:	None	
SAT UN	SAT	
Comment(s):		

<u>Step 4</u>

NOTE TCOA-30 indicates a Time Critical Operator action with the action required to be performed within 30 minutes of the applicable initiating event. Ref. PYBP-POS-0029.

4.3 IF directed to replace the fuses for 1P45-F014A, THEN PERFORM the following at the MCC EF1B07, Compt. XP

4.4 IF directed to replace the fuses for 1P45-F68A, THEN PERFORM the following at the MCC EF1B07, Compt. XR

Standard:	Steps 4.3 & 4.4 are NA.
Instructor Cue:	Operator is not directed to replace fuses in above MCC's
Notes:	The Time Critical Operator Action NOTE does not apply since Steps 4.3 & 4.4 are N/A
SAT UN	SAT
<b>Comment</b> (s):	

# OT-3701-C61\_006\_RO <u>Step 5</u>

4.5 PLACE the electrohydraulic actuator for ECC HX A TEMP CONTROL VALVE 1P42-F665A in service as follows:

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4.5.1 OPEN the disconnect at MCC EF1A09 Compt. S.

- 4.5.2 LIFT AND TAPE the following wires at MCC EF1A09 Compt. S:
  - White wire P423204A at Terminal 15.
  - Black wire P4232X2 at Terminal 24.

Critical Ste	<u>p</u> : Opera	tor simulates opening EF1A09-S, and taping white and black wires.
Instructor (	Cue: 1. 2. 3. 4.	"Disconnect Open" (No lights on) Give operator the BEFORE picture of internal wiring after he has simulated opening correct MCC. After describing lifting leads give operator the AFTER picture of internal wiring. "Wires lifted and taped."
Notes:	None	
SAT	UNSAT	_
<b>Comment</b> (s	):	

## <u>Step 6</u>

4.5.3 LIFT AND TAPE wire P4220727A at Terminal Block 3 (TB3) located inside the actuator at valve 1P42-F665A.

Critical Step:	Operator simulates opening actuator, lifting, and taping wire	
----------------	---	--

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Instructor Cue	<b>:</b> 1.	When operator locates valve and describes how to open the cover, give operator picture of actuator internals.
	2.	"Wire lifted and taped"
Notes:	No	one
SAT	UNSAT	
<b>Comment</b> (s):		

# OT-3701-C61\_006\_RO <u>Step 7</u>

Rev 0

4.5.4 CLOSE the disconnect at MCC EF1A09 Compt. S.

4.5.5 IF the motor run red light is NOT lit at MCC EF1A09, Compt. S, THEN PERFORM the following at the MCC:

Critical Step:	Operator simulates closing EF1A09-S and verifies red light on.		
Instructor Cue:	<ol> <li>Disconnect closed.</li> <li>Motor Run Red light ON</li> </ol>		
Notes:	Remainder of Step 4.5.5 is N/A		
SAT UN	SAT		
Comment(s):			

Terminating Cue: Attachment 20 steps 4.1 through 4.5 complete for IOI-11

 Evaluation Results:
 SAT\_\_\_\_\_UNSAT\_\_\_\_\_

End Time \_\_\_\_\_

# JPM CUE SHEET

INITIAL CONDITIONS:	<ul> <li>There was a fire in Control Room.</li> <li>ONI-C61 actions are complete.</li> <li>Reactor is Shutdown.</li> <li>IOI-11 has commenced.</li> <li>All divisional buses have power.</li> </ul>
INITIATING CUE:	The Unit Supervisor directs you as the Reactor Operator to perform IOI-11 Attachment 20 CONTROL ROOM ISOLATION Steps 4.1 through 4.5.

#### Rev 0 JOB PERFORMANCE MEASURE SETUP SHEET

System:	R10 – Station Electrical
Time Critical:	Yes
Alternate Path:	No
Applicability:	RO/SRO
Safety Function:	6 - Electrical
Setting:	Plant (Non-RRA)
Validated:	26 minutes
References:	ONI-SPI D-2 Rev 4
Tasks:	066-508-04-01 Respond to Loss of Off Site Power
	262-554-04-01 Maintain System Availability
	263-510-04-01 Remove Non-Essential DC Loads
Task Standard:	Extend battery life by shedding nonessential DC loads per ONI-SPI D-2 for Divisional buses.
Required Material:	ONI-SPI D-2, Nonessential DC Loads & pictures of V-1-A
K / A Data:	295003 AK2.01 Knowledge of the interrelations between partial or complete loss of A.C. POWER and the following:
	Station batteries.
	RO 3.2 / SRO 3.3
	AA1.04 Ability to operate and/or monitor the following as they apply to partial or complete loss of A.C. power: D.C.
	electrical distribution system. RO 3.6 / SRO 3.7

- 1. <u>Setup Instructions</u>: This JPM has a 3-hour Time Critical Limit as directed from ONI-R10.
- 2. <u>Location / Method</u>: Plant / Simulation
- 3. <u>Initial Condition</u>: A Station Blackout has occurred. The plant is operating IAW ONI-R10, Loss Of AC Power. Div 1 DG is damaged and will not be restored. Preparations are underway to restore Div 2 DG to service. Div 3 DG is carrying EH13 bus. Non-Divisional DC Loads are being removed per ONI-SPI D-2, by another Plant Operator.
- 4. <u>Initiating Cue</u>: The Unit Supervisor directs you, as a Plant Operator, to perform ONI-SPI D2, Non Essential DC Loads, and shed all non-essential loads for Divisional buses.

Start Time: \_\_\_\_\_ End Time: \_\_\_\_\_

Candidate: \_\_\_\_\_

Rev 0

# JPM BODY SHEET

Rev 0

<u>Standard:</u> Performer obtains or simulates obtaining all materials, procedures, tools, keys, radios, etc... before performing task.

<u>Standard:</u> Performer follows management expectations with regards to safety and communication standards.

# Step 1

#### **ONI-SPI D-2, NONESSENTIAL DC LOADS**

One non-l A Radiatio	NOTES icensed operator should be assigned to perform the following actions on Protection Technician may be required to perform Steps 1.9 thru 1 s 2.6 thru 2.10	1.0 Remove Nonessential DC Loads as follows:			
Steps and		NOTE			
	Neutron Flux indication at panels 1H13-P669 and P671 is lost whe	n DIV 1 AT	WS UPS,		
1.	1R14-S012, is shutdown.				
	1				
	AT Distribution Panel ED1A06 (CC 638), VERIFY the fo	ollowing disc	onnects OPEN:		
	• ECCS BENCHBOARD, 1H13-P601 Disc 1				
	• DIV 1 RPS INST AND AUX RELAY PANEL, 1H13-P691	Disc 2			
	• RRCS PANEL (CH A), 1C22-P001	Disc 14			
	• RRCS PANEL (CH B), 1C22-P001	Disc 16			
	• DIV 1 ATWS UPS, 1R14-S012	Disc 22			
	• RCIRC PUMP BRKRS 3A & 3B CONTROL POWER	Disc 26			

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Critical Step:	Operator simulates opening disconnects 1, 2, 14, 16, 22, and 26 at ED1A06
Instructor Cue:	Disconnects are open
Notes:	None
SAT UNS	SAT
Comment(s):	

#### <u>Step 2</u>

1.2 IF it has been determined that the Div. 1 Diesel Generator CANNOT be made operational. THEN AT Distribution Panel ED1A06 (CC 638), VERIFY the following disconnects OPEN:

•	GENERATOR	CONTROL	PANEL,	1H51-P055A	Disc 9

- ENGINE (START) CONTROL PANEL, 1H51-P054A Disc 11
- ENGINE (RDN START) CONTROL PANEL, H51-P054A Disc 12
- GENERATOR (FIELD FLASH) CONTROL PANEL, 1H51-P055A Disc 28

Critical Step:	Operator simulates opening disconnects 9, 11, 12, and 28 at ED1A06
Instructor Cue: Disconnects are open	
Notes:	Initiating Cue gave Div 1 DG will not be restored.
SAT UN	SAT
Comment(s):	

# OT-3701-R10\_303\_RO

# Rev 0

# <u>Step 3</u>

NOTE The Maintenance and Calibration System (R52) can be used to augment the plant radios for communication.							
1.3 AT 120V AC Vital Distribution Panel V-1-A (CC 638 Behind Unit 1 Computer Room), VERIFY the following disconnects OPEN:							
• ERIS	DIGITAL INPUTS PANEL, 1H22-P110A-1	Disc 1					
• OSCII	LLOGRAPH/B.A.T PANEL, H13-P910	Disc 3					
• ANAI	LOG LOOP A INSTRUMENT PANEL, 1H13-P865	Disc 9					
• ERIS	POWER MONITOR INPUT	Disc 11					
• STEAM BYPASS AND PRESSURE REGULATOR CABINET, 1H13-P637 Disc 14							
• MAINTENANCE AND CALIBRATION SYSTEM Disc 20							
Standard:	Operator determines Step 1.3 is N/A		]				
Instructor Cue:	If asked, another operator has completed this step.						
Notes:	Initial Conditions state that the Non-Divisional DC Lo removed by another Plant Operator. However, operato coordinate with other operator and perform this step.	ads are being r may choose to					
SAT UNS	SAT						
Comment(s):							

## OT-3701-R10\_303\_RO <u>Step 4</u>

1.4 AT Distribution Panel ED1B06 (CC 638), VERIFY the RCIRC PUMP BRKRS 4A & 4B CONTROL POWER disconnect OPEN. Disc 26

Critical Step:	Operator simulates opening disconnect 26 at ED1B06	
Instructor Cue:	Disconnect is open	
Notes:	None	
SAT UNS	SAT UNSAT	
Comment(s):		

# Step 5

1.5 IF it has been determined that the Div. 2 Diesel Generator CANNOT be made operational THEN AT Distribution Panel ED1B06 (CC 638), VERIFY the following disconnects OPEN:

Standard:	Step 1.5 is N/A.
Instructor Cue:	None
Notes:	The Initiating Cue gave that Div 2 DG will be restored
SAT UNSAT	
Comment(s):	

## OT-3701-R10\_303\_RO <u>Step 6</u>

# NOTE Neutron Flux indication at panels 1H13-P670 and P672 is lost when DIV 2 ATWS UPS, 1R14-S013, is shutdown.

1.6 AT Distribution Panel ED1B08 (CC 638), VERIFY the following disconnects OPEN:

- ECCS BENCHBOARD, 1H13-P601 Disc 1
  CH B RPS INST AND AUX RELAY PANEL, 1H13-P692 Disc 2
  RRCS PANEL (CH A), 1C22-P002 Disc 14
- RRCS PANEL (CH B), 1C22-P002 Disc 16
- DIV 2 ATWS UPS, 1R14-S013 Disc 26

Critical Step:	Operator simulates opening disconnects 1, 2, 14, 16, and 26 at ED1B08	
Instructor Cue:	Disconnects are open	
Notes:	None	
SAT UN	SAT UNSAT	
Comment(s):	Comment(s):	

# <u>Step 7</u>

1.7 AT Bus ED-1-C (DG 620 Inside 1E22-P002), VERIFY the ECCS BENCHBOARD, 1H13-P601 Brkr OPEN: 1CB17

Critical Step:	Operator simulates opening breaker 1CB17.
Instructor Cue:	Breaker is open

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Notes:	None	
SAT	UNSAT	
Comment(s):		

# <u>Step 8</u>

1.8 IF it has been determined that the Div. 3 Diesel Generator CANNOT be made operational THEN AT Bus ED-1-C (DG 620 Inside 1E22-P002), VERIFY the following Brkrs OPEN:

Standard:	Step 1.8 is N/A.	
Instructor Cue:	None	
Notes:	The Initiating Cue gave that Div 3 DG is running	
SAT UNS	SAT UNSAT	
Comment(s):		

# <u>Step 9</u>

- 1.9 AT Bus D-1-B
- 1.10 AT Distribution Panel D1A06
- 1.11 AT Distribution Panel D1B06
- 1.12 AT Distribution Panel D1B07
- 1.13 AT DB1A Static Transfer Switch

Standard: Steps 1.9 - 1.13 are N/A.

# OT-3701-R10\_303\_RO Rev 0 Instructor Cue: None Notes: The Initiating Cue gave that Non-Divisional DC Loads are being removed by another Plant Operator. Terminate the JPM. SAT \_\_\_\_\_UNSAT \_\_\_\_\_ Comment(s):

Terminating Cue: DC Load shed complete for Divisional buses.

 Evaluation Results:
 SAT\_\_\_\_\_

End Time: