FINAL SUBMITTAL

HARRIS RETAKE EXAM
50-400/2001-301

MARCH 28 - 29, 2001

FINAL ADMIN TOPICS OUTLINE
(ES-301-1),

Facility: Harris Nuclear Power Plant Date of Examination: March 29, 2001
Exam Level: SRO

Administrative Topic/Subject Description		Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions
A.1	Procedure Usage (NEW)	JPM: Determine Status of Critical Safety Functions Without ERFIS SPDS Functions Available
	Plant parameters verification (Modified)	JPM: Perform a Manual QPTR
A.2	Tech. Spec. compensatory actions (Modified)	JPM: Vent Stack Flow Rate Monitor Inoperability
A.3	Radiation Work Permits (NEW)	JPM: Determine Requirements for Work in a Radiation Controlled Area
A.4	Emergency classifications and PARs (NEW)	JPM: Perform an Emergency Action Level Classification and Recommend Protective Actions (Fuel breach and ATWS)

FINAL SUBMITTAL

HARRIS RETAKE EXAM
50-400/2001-301

MARCH 28 - 29, 2001

FINAL ADMIN JPMS

HARRIS NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM A.1-1

Determine Status of Critical Safety Functions Without ERFIS SPDS Functions Available

CANDIDATE ______________________________

EXAMINER ______________________________

REGION II
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Determine Status of Critical Safety Functions Without ERFIS SPDS Functions Available

Alternate Path:

N/A

Facility JPM #:

N/A (NEW)

K/A Rating(s):

2.1.2 (3.0/4.0)

Task Standard:

Correctly use EOF-CSFST to determine a "red" status on the Integrity CSF and the determine the required transition to EOP-FRP-P.1.

Preferred Evaluation Location:

Simulator __X__ In-Plant ____

Preferred Evaluation Method:

Perform __X__ Simulate ____

References:

EOP-USER'S GUIDE, "User's Guide" Rev. 10
EOP-CSFST, "Critical Safety Function Status Trees" Rev. 6

Validation Time: 15 min. **Time Critical:** No

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Candidate: ____________________________
NAME

Time Start : ________
Time Finish: ________

Performance Rating: SAT ______ UNSAT ______ Question Grade ______ Performance Time ______

Examiner: ________________________ ____________________________/________
NAME SIGNATURE DATE

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COMMENTS

Tools/Equipment/Procedures Needed:

EOP-CSFST, "Critical Safety Function Status Trees" Rev. 6

NOTE: PROVIDE CANDIDATE WITH JPM ATTACHMENT WITH REQUIRED DATA UPON INITIATION OF JPM.

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant has experienced a Reactor Trip and SI from 100% Power. It has been 25 minutes since SI was initiated. The Source range monitors have reenergized. The crew is implementing EOP-PATH-1 and has reached step 53 that directs "Implement Function Restoration Procedures as Required." The ERFIS SPDS function is NOT available.

INITIATING CUES:

You have been directed to determine the status of the critical safety functions (CSF) and the procedural direction that is required based on your determination of CSF status.

START TIME: _______

STEP 1.:	Operator retrieves a copy of EOP-CSFST	
STANDARD:	Operator refers to EOP-CSFST and begins monitoring CSFSTs at CSF-1. Operator may refer the board mounted version or another controlled copy.	___ SAT ___ UNSAT
COMMENTS:		
STEP 2.:	Operator monitors NIS Power Range.	
STANDARD:	Operator determines Power Range LESS THAN 5% by monitoring NI-41, 42, 43, AND 44.	___ SAT ___ UNSAT
COMMENTS:		
STEP 3:	Operator Monitors Intermediate Range SUR.	
STANDARD:	Operator determines Intermediate Range SUR is ZERO OR NEGATIVE by monitoring control board meters and/or meters on IR NI drawer.	___ SAT ___ UNSAT
COMMENTS:		
STEP 4:	Operator determines Source Range is energized.	
STANDARD:	Operator determines Source Range IS ENERGIZED from indications and/or initial conditions	___ SAT ___ UNSAT
COMMENTS:		

	CRITICAL STEP
STEP 5: Operator Monitors Source Range SUR. STANDARD: Operator determines Source Range SUR IS NEGATIVE by monitoring control board meters and/or meters on SR NI drawer and determines a GREEN Path Exists. ***CRITICAL STEP TO DETERMINE A GREEN PATH EXISTS.*** COMMENTS:	___ SAT ___ UNSAT
STEP 6: Operator transitions to CSF-2 and monitors Core Exit T/Cs. STANDARD: Operator determines Core Exit T/Cs LESS THAN 1200 degrees F using Inadequate Core Cooing Monitor. COMMENTS:	___ SAT ___ UNSAT
STEP 7: Operator Monitors RCS Subcooling. STANDARD: Operator determines RCS Subcooling IS LESS THAN 50 °F using the core exit T/C readout on the ICCM and RCS pressure indication. The 50 °F criteria is based on manual calculation and adverse containment conditions. The operator may use the "Reactor Coolant Temperature and Pressure Limitations" graph on EOP-CSFST or may calculate the value of subcooling. COMMENTS:	___ SAT ___ UNSAT

STEP 8: Operator Monitors RCPs Running. STANDARD: Operator determines NO RCPs RUNNING by monitoring control board. COMMENTS:	___ SAT ___ UNSAT
STEP 9: Operator Monitors Core Exit T/Cs. STANDARD: Operator determines Core Exit T/Cs are LESS THAN 730 °F using ICCM. COMMENTS:	___ SAT ___ UNSAT
STEP 10: Operator Monitors RVLIS full range. STANDARD: Operator determines RVLIS full range is GREATER THAN 39% and determines a YELLOW Path Exists. ***CRITICAL STEP TO DETERMINE A YELLOW PATH EXISTS.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 11: Operator transitions to CSF-3 and monitors NR level in all SGs. STANDARD: Operator determines Narrow Range level in ALL S/Gs is GREATER THAN 10% [**40% ADV**] using NR level indicators for each S/G. COMMENTS:	___ SAT ___ UNSAT

STEP 12: Operator Monitors Pressure in all S/Gs. STANDARD: Operator determines Pressure in all S/Gs LESS THAN 1230 PSIG COMMENTS:	___ SAT ___ UNSAT
STEP 13: Operator monitors NR level in all SGs. STANDARD: Operator determines Narrow Range level in all S/Gs LESS THAN 82.4% using S/G NR level indicators for all S/Gs. COMMENTS:	___ SAT ___ UNSAT
STEP 14: Operator Monitors Pressure in all S/Gs. STANDARD: Operator determines Pressure in all S/Gs is LESS THAN 1170 PSIG. COMMENTS:	___ SAT ___ UNSAT
STEP 15: Operator monitors NR level in all SGs. STANDARD: Operator determines Narrow Range level in all S/Gs is GREATER THAN 10% [**40% ADV**] using S/G NR level indicators for all S/Gs and determines a GREEN path exists. ***CRITICAL STEP TO DETERMINE A GREEN PATH EXISTS.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 16: Operator transitions to CSF-4 and monitors RCS cold leg temperature decrease over last 60 minutes. STANDARD: Operator determines that ANY Tcold has dropped GREATER THAN 100 °F in last 60 minutes using Tcold temperature indicators on MCB and/or Tcold temperature recorder on recorder panel. (With Tcold less than 450 °F, the operator can determine this criteria from the initial conditions.) COMMENTS:	___ SAT ___ UNSAT
STEP 17: Operator Monitors RCS pressure vs T-cold. STANDARD: Operator determines ANY Tcold POINT IS TO THE LEFT of limit A on the RCS Integrity PTS Limits Curve included on EOP-CSFST and determines a RED path exists. Associated procedure transition is to EOP-FRP-P.1. ***CRITICAL STEP TO DETERMINE A RED PATH EXISTS AND IDENTIFY REQUIRED TRANSITION TO EOP-FRP-P.1.*** COMMENTS: **END OF TASK**	**CRITICAL STEP** ___ SAT ___ UNSAT

TIME STOP: ________

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant has experienced a Reactor Trip and SI from 100% Power. It has been 25 minutes since SI was initiated. The Source range monitors have reenergized. The crew is implementing EOP-PATH-1 and has reached step 53 that directs "Implement Function Restoration Procedures as Required." The ERFIS SPDS function is NOT available.

INITIATING CUES:

You have been directed to determine the status of the critical safety functions (CSF) and the procedural direction that is required based on your determination of CSF status.

HARRIS
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM A.1-2

Perform A Manual QPTR

CANDIDATE ______________________________

EXAMINER ______________________________

HARRIS
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform a manual QPTR

Alternate Path:

N/A

Facility JPM #:

JPM-CR-036 (MODIFIED)

K/A Rating(s):

2.1.7 (3.7/4.4)

Task Standard:

QPTR calculated correctly as stated in JPM step 11.

Preferred Evaluation Location: Simulator __X__ In-Plant ____

Preferred Evaluation Method: Perform __X__ Simulate ____

References:

OST-1039, Calculation of Quadrant Power Tilt Ratio, Weekly Interval. Rev. 12

Validation Time: 15 min. **Time Critical:** No

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Candidate: ________________________________ NAME

Time Start : ________
Time Finish: ________

Performance Rating: SAT ______ UNSAT ______

Performance Time ______

Examiner: ________________________ NAME ________________________ SIGNATURE /________ DATE

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COMMENTS

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____

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Tools/Equipment/Procedures Needed:

Curve F-X-8, Simulator version, Operations Curve Book
OST-1039, Calculation of Quadrant Power Tilt Ratio, Weekly Interval.
Calculator
HNP simulator using initial condition #19 and the machine in the freeze mode

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant is in Mode 1 stable at 100% power. The weekly surveillance for QPTR is due during the present shift.

INITIATING CUES:

The weekly performance of OST-1039 is due this shift. The Quadrant Power Tilt Ratio Calculation Computer Program is unavailable due to a suspected program calculation error. You are directed to perform a MANUAL QPTR USING OST-1039, CALCULATION OF QUADRANT POWER TILT RATIO, WEEKLY INTERVAL.

All procedure prerequisites have been completed.

START TIME: _______

STEP 1: Applicant obtains a copy of the procedure STANDARD: Obtains a copy of the procedure **CUE: Provide the applicant with a copy of OST-1039 with the prerequisite section complete.** **NOTE: The simulator curve book contains a version of F-X-8 which is specific to the simulator. The calculations are based on this curve. The simulator curve F-X-8 should be used for this JPM.** COMMENTS:	___ SAT ___ UNSAT
STEP 2: 7.0. 1 If Quadrant Power Tilt Ratio Calculation Computer Program is used, perform Section 7.1, and N/A section 7.2. STANDARD: Enters "NA" for this step COMMENTS:	___ SAT ___ UNSAT
STEP 3: 7.0.2 If manual calculation of the Quadrant Power Tilt Ratio is used, perform Section 7.2, and N/A section 7.1. STANDARD: N/As section 7.1 and starts at section 7.2. COMMENTS:	___ SAT ___ UNSAT

STEP 4: 7.2.1 Prior to reading the value of detector current, ensure the Meter Range/Rate switch is in the 400 μA/SLOW position.

___ SAT

STANDARD: Verifies one switch for each detector is in the 400 μA/SLOW position (Total of 8 switches).

___ UNSAT

COMMENTS:

STEP 5: 7.2.2 Record on Attachment 2, in column A, the upper and lower detector currents from all operable power range channels as read on the Nuclear Instrumentation Cabinet.

___ SAT

STANDARD: Records current values of the upper and lower detectors for the NI. Enters the value for the upper detector on the upper table of attachment 2 and the lower values for the lower detector on the lower table.

___ UNSAT

CUE: **ALL CHANNELS OF NUCLEAR INSTRUMENTATION ARE OPERABLE**

NOTE: **Calculations are based on the following values**

Nuclear Instrument	Upper	Lower
N41	116.2	135.8
N42	130.7	154.6
N43	149.3	171.4
N44	117.2	146.5

COMMENTS:

STEP 6: 7.2.3 Record on Attachment 2, in column B, the 100% power normalized current for each channel. (Refer to Curve F-X-8)

STANDARD: Enters values from Curve F-X-8 in column B of attachment 2

NOTE: **Values from Curve F-X-8**

Nuclear Instrument	**Upper**	**Lower**
N41	**135.0**	**153.6**
N42	**150.5**	**173.5**
N43	**172.1**	**193.2**
N44	**135.4**	**164.2**

COMMENTS:

___ SAT

___ UNSAT

CRITICAL STEP

STEP 7: 7.2.4 Divide values in column A by the respective normalized current in column B and record the result in column C as the Normalized Fraction.

STANDARD: Obtains the following values in column C within an accuracy of ± 0.0002

Nuclear Instrument	Upper	Lower
N41	0.8607	0.8841
N42	0.8684	0.8910
N43	0.8675	0.8871
N44	0.8655	0.8922

CRITICAL STEP TO DETERMINE CORRECT VALUES FOR NORMALIZED FRACTION TO ENSURE FINAL CALCULATION IS CORRECT

COMMENTS:

___ SAT

___ UNSAT

STEP 8: 7.2.5 Calculate the average value for the upper and the lower Normalized Fractions by adding the Normalized Fraction in each section of column C and divide by the number of operable NI channels. Record in column D of Attachment 2. STANDARD: Obtains the following values for the average upper and lower normalized fraction in column D within an accuracy of ± 0.0003 Normalized Fraction — Upper 0.8655, Lower 0.8886 ***CRITICAL STEP TO DETERMINE CORRECT VALUES FOR AVERAGE NORMALIZED FRACTION TO ENSURE FINAL CALCULATION IS CORRECT*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 9: 7.2.6 Using the formula and values from Attachment 2 calculate the Upper and Lower Ratios. STANDARD: Uses formula to determine upper ratio is 1.003 ± 0.002 and lower ratio is 1.004 ± 0.002. ***CRITICAL STEP TO DETERMINE CORRECT VALUES FOR THE UPPER AND LOWER RATIOS TO ENSURE FINAL CALCULATION IS CORRECT*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 10: 7.2.7 Perform independent verification of all calculations made on Attachment 2. STANDARD: Request for Independent verification of another operator. **CUE: Independent verification is complete with no discrepancies noted** COMMENTS:	___ SAT ___ UNSAT

STEP 11: 7.2.8 The upper ratio or the lower ratio, whichever is greater, is the quadrant power tilt ratio (QPTR). Record QPTR and verify QPTR is less than or equal to 1.02. STANDARD: Determines the QPTR to be 1.004 ± 0.002 (or the higher number identified in JPM step 9 if the value is within the acceptance criteria). Determine the value of the QPTR is less than 1.02. ***CRITICAL STEP TO DETERMINE THE FINAL VALUE OF THE QPTR AND DETERMINE THE VALUE TO BE LESS THAN 1.02.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 12: 7.3.1 Complete applicable sections of Attachment 3, Certifications and Reviews and inform the Unit SCO when this test is completed. STANDARD: Completes Attachment 3 to document test completion. Items for "Pages Used" and USRO review may be omitted. COMMENTS: **END OF TASK**	___ SAT ___ UNSAT

TIME STOP: ________

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant is in Mode 1 stable at 100% power. The weekly surveillance for QPTR is due during the present shift.

INITIATING CUES:

The weekly performance of OST-1039 is due this shift. The Quadrant Power Tilt Ratio Calculation Computer Program is unavailable due to a suspected program calculation error. You are directed to perform a MANUAL QPTR USING OST-1039, CALCULATION OF QUADRANT POWER TILT RATIO, WEEKLY INTERVAL.

All procedure prerequisites have been completed.

HARRIS
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM A.2

Vent Stack Flow Rate Monitor Inoperability

CANDIDATE ______________________________

EXAMINER ______________________________

HARRIS
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Vent Stack Flow Rate Monitor Inoperability

Alternate Path:

N/A

Facility JPM #:

JPM-P-A2 (modified)

K/A Rating(s):

2.2.23 (2.6/3.8)

Task Standard:

RAB Vent Stack Estimation completed correctly

Preferred Evaluation Location:

Simulator _X____ In-Plant _____

Preferred Evaluation Method:

Perform _X___ Simulate _____

References:

OP-118, Radiation Monitoring System, Rev. 9
OWP-RM, Radiation, Effluent, and Explosive Gas Monitoring, Rev. 18

Validation Time: 25 min. **Time Critical:** No

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Candidate: ______________________________
NAME

Time Start : ________
Time Finish: ________

Performance Rating: SAT ______ UNSAT ______

Performance Time ______

Examiner: ________________________ __________________________/_______
NAME SIGNATURE DATE

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COMMENTS

____

____

____

Tools/Equipment/Procedures Needed:

OP-118, Radiation Monitoring System
OWP-RM, Radiation, Effluent, and Explosive Gas Monitoring
Calculator

SIMULATOR SETUP INSTRUCTIONS:

Place the simulator in a 100% power steady state set of initial conditions. Defeat the red light for fan E-18 to the off position.

READ TO OPERATOR

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be simulated for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

You have just declared PNL-21AV-3509-1, Plant Vent Stack Isokinetic Control Panel (PVS) inoperable due to a faulty power supply for the Control Panel only. The current time is 1250.

INITIATING CUES:

You are the USCO, determine what actions are required by plant procedures for PNL-21AV-3509-1, Plant Vent Stack Isokinetic Control Panel (PVS) becoming inoperable.

START TIME: _______

STEP 1: Obtains the correct procedure. STANDARD: Determines OWP-RM-15 applies for Plant Vent Stack Flow Monitor being inoperable COMMENTS:	___ SAT ___ UNSAT
STEP 2: Completes "Time/Date Component Inoperable:" entry. STANDARD: Enters today's date and an inoperable time of 1250. **CUE:** **IF APPLICANT REQUEST WR/JO AND/OR CLEARANCE NUMBER, RESPOND WITH - WR/JO AND CLEARANCE ARE BEING PROCESSED, A NUMBER FOR EACH WILL BE PROVIDED WHEN THE PAPERWORK IS COMPLETE.** **USE TODAY'S DATE** COMMENTS:	___ SAT ___ UNSAT
STEP 3: Completes the "LCO Management Program updated" entry. STANDARD: Notifies the WCC-SRO to enter information to declare the Plant Vent Stack Flow Monitor inoperable at 1250 today. **CUE:** **WCC-SRO repeats back the information and states he will complete the requested task.** COMMENTS:	___ SAT ___ UNSAT

STEP 4:	Completes the "Name of RMS qualified HP Technician notified:" entry.	
STANDARD:	Notifies HPs of the Inoperability of the Plant Vent Stack Flow Rate Monitor.	___ SAT
CUE:	**HPs repeats back the information**	
COMMENTS:		___ UNSAT
STEP 5:	Completes the "Name of Chemistry Technician notified:" entry.	
STANDARD:	Notifies Chemistry of the Inoperability of the Plant Vent Stack Flow Rate Monitor.	___ SAT
CUE:	**HPs repeats back the information**	___ UNSAT
COMMENTS:		
STEP 6:	Completes the "Name of Radwaste Control Room Operator notified (Stack 5 or 5A only):" entry	___ SAT
STANDARD:	Places a NA in this field.	
CUE:		___ UNSAT
COMMENTS:		

STEP 7: Completes the "Have RMS qualified HP Technician insert substitute value for Stack flow in the corresponding WRGM and PIG per HPP-780." entry. STANDARD: Notifies the HP to insert a substitute value for the Stack flow as determined by HPP-780. **CUE: If applicant response is to make the WRGM and PIG inoperable. Respond that the SSO desires to maintain the WRGM and PIG operable.** **CUE: HP repeats back the information and states he will complete the requested task.** ***CRITICAL STEP TO NOTIFY HPS TO ENTER A SUBSTITUTE STACK FLOW IN ORDER TO OBTAIN CORRECT RELEASE MAGNITUDE.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 8: Estimate Stack flow at least every 4 hours per OP-118 or OP-119. STANDARD: Starts the LCO Action Log. **CUE: OBTAIN ONE ESTIMATE OF PLANT VENT STACK FLOW, THE REMAINDER OF THE OWP WILL BE COMPLETED BY OTHERS.** COMMENTS:	___ SAT ___ UNSAT
STEP 9: Obtains a copy of OP-118 section for Vent Stack Flow Rate Monitor Inoperability STANDARD: Locates section 8.5, Vent Stack Flow Rate Monitor Inoperability of OP-118. **CUE:** COMMENTS:	___ SAT ___ UNSAT

STEP 10: 8.5.2.1 Commence logging Plant or Turbine Building vent stack flow with Attachment 7 or 8. STANDARD: Determines Attachment 7, Plant Vent Stack Estimated Flow Rate Log is the correct attachment to be used. **CUE:** COMMENTS:	___ SAT ___ UNSAT
STEP 11: OP-118, Attachment 7; Obtains status of fans listed on Sheet 2 of Attachment 7 STANDARD: Checks the fan status in the following JPM steps. COMMENTS:	___ SAT ___ UNSAT
STEP 12: Checks status of fans ES-1, ES-2, & ES-3 and enters fan status on OP-118 Attachment 7 Sheet 2 of 2. STANDARD: Locates controls for fans and determines correct fan status: ES-1 OFF ES-2 OFF ES-3 OFF COMMENTS:	___ SAT ___ UNSAT

STEP 13: Checks status of fans E-4 & E-5 and enters fan status on OP-118 Attachment 7 Sheet 2 of 2. STANDARD: Locates controls for fans and determines correct fan status: E-4 OFF E-5A OFF E-5B OFF COMMENTS:	___ SAT ___ UNSAT
STEP 14: Checks status of fans E-6A & E-6B and enters fan status on OP-118 Attachment 7 Sheet 2 of 2. STANDARD: Locates controls for fans and determines correct fan status: E-6A OFF E-6B OFF COMMENTS:	___ SAT ___ UNSAT

STEP 15: Determines status of fans E-11, E-12, E-13, & E-14 and enters fan status on OP-118 Attachment 7 Sheet 2 of 2.	___ SAT
STANDARD: Fan controls are located outside the MCR. Applicant should dispatch a NLO to determine fan status. E-11 ON E-12 OFF E-13 ON E-14 ON	___ UNSAT
CUE: Report fan status as follows: **E-11 ON** **E-12 OFF** **E-13 ON** **E-14 ON**	
COMMENTS:	

STEP 16:	Checks status of fans E-17, E-18, E-19, & E-20 and enters fan status on OP-118 Attachment 7 Sheet 2 of 2.	___ SAT
STANDARD:	Locates controls for fans and determines correct fan status: E-17 ON Applicant observes no indication of fan status for E-18. Applicant may determine fan status using one of three methods: 1- Dispatch NLO to fan to determine status 2- Dispatch NLO to breaker to determine if the breaker is closed 3- Observe flow indication of the unit and determine fan is running. E-18 ON Locates controls for fans and determines correct fan status: E-19 ON E-20 ON	___ UNSAT

CUE:

Option 1 - If applicant dispatches NLO to check fan locally NLO is to respond "Local indications are the E-18 fan shaft is rotating and local flow is indicated".

Option 2 - If applicant dispatches a NLO to the fan breaker, the NLO is to respond "The breaker for E-18 is indicating shut".

Option 3 - no response required for option three (PI-4831B, E-18 exhaust flow will be indicating ~34,000 scfm)

NOTE:

Applicant may elect to secure E-18 fan. This will change the final estimate of stack flow rate.

COMMENTS:

STEP 17: Checks status of fans E-22X & E-22Z and enters fan status on OP-118 Attachment 7 Sheet 2 of 2. STANDARD: Locates controls for fans and determines correct fan status: E-22X ON E-22Z ON COMMENTS:	___ SAT ___ UNSAT
STEP 18: Determines status of fans E-23, E-24, E-25, & E-26 and enters fan status on OP-118 Attachment 7 Sheet 2 of 2. STANDARD: Fan controls are located outside the MCR. Applicant should dispatch a NLO to determine fan status. E-23 OFF E-24 ON E-25 ON E-26 OFF **CUE: Report fan status as follows:** **E-23 OFF** **E-24 ON** **E-25 ON** **E-26 OFF** COMMENTS:	___ SAT ___ UNSAT

STEP 19: Completes "Flow Sum" block STANDARD: Calculates to determine the flow sum is equal to the following based on the status of fan E-18: E-18 ON - 355,500 cfm E-18 OFF - 318,500 cfm CUE: **CRITICAL STEP TO CALCULATE CORRECT STACK FLOWRATE FOR USE IN THE OFFSITE DOSE ASSESSMENT** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 20: Completes "Actual Flow" block STANDARD: Multiplies "Flow Sum" by 1.12 to calculate "Actual Flow" based on the status of fan E-18: E-18 ON - 398,160 cfm E-18 OFF - 356,720 cfm CUE: **CRITICAL STEP TO CALCULATE CORRECT STACK FLOW RATE FOR USE IN THE OFFSITE DOSE ASSESSMENT** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 21: Completes remainder of Attachment 7 STANDARD: Initials as the performer and request another operator to verify the calculation. CUE: **The calculation was verified and no discrepancies noted.** COMMENTS:	___ SAT ___ UNSAT

STEP 22:	8.5.2.2 Direct an HP Technician to place the associated vent stack radiation monitors, WRGM and PIG, into Substitute Process Mode per HPP-780 OR declare the associated vent stack radiation monitors inoperable.	___ SAT
STANDARD:	No action required, this was completed as part of the OWP.	___ UNSAT
CUE:		
COMMENTS:		
	END OF TASK	

TIME STOP: ________

SRO CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

DIRECTION TO TRAINEE:

I will explain the initial conditions, and state the task to be performed. All control room steps shall be simulated for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

You have just declared PNL-21AV-3509-1, Plant Vent Stack Isokinetic Control Panel (PVS) inoperable due to a faulty power supply for the Control Panel only. The current time is 1250.

INITIATING CUES:

You are the USCO, determine what actions are required by plant procedures for PNL-21AV-3509-1, Plant Vent Stack Isokinetic Control Panel (PVS) becoming inoperable.

HARRIS NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM A.3

Determine Requirements for Work in a Radiation Controlled Area

CANDIDATE ____________________

EXAMINER ____________________

HARRIS NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Determine Requirements for Work in a Radiation Controlled Area

Alternate Path:

N/A

Facility JPM #:

N/A (NEW)

K/A Rating(s):

2.3.1 (2.6/3.0)

Task Standard:

Correctly use the Operations General RWP to determine the requirements for work in a Radiation Controlled Area.

Preferred Evaluation Location:

Simulator ____ In-Plant ____

Preferred Evaluation Method:

Perform __X__ Simulate ____

References:

Various Radiation Work Permits including:
- RWP H01-001 Rev. 1, Routine Health Physics Activities
- RWP H01-003 Rev. 0, Operations General RWP
- RWP H01-004 Rev. 0, Miscellaneous Maintenance Activities
- RWP H01-006 Rev. 1, Inspections
- RWP H01-011 Rev. 0, Inspections and Hands On Work Allowed For Escorted Personnel

Validation Time: 15 min. **Time Critical:** No

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Candidate: ______________________________ Time Start : ________
NAME Time Finish: ________

Performance Rating: SAT ______ UNSAT ______ Question Grade ______ Performance Time ______

Examiner: ______________________ ______________________/________
NAME SIGNATURE DATE

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COMMENTS

Tools/Equipment/Procedures Needed:

Radiation Work Permits (RWP) listed in the reference section.

NOTE: PROVIDE CANDIDATE WITH THE ATTACHED GENERAL RWPS UPON INITIATION OF JPM.

READ TO OPERATOR

DIRECTION TO CANDIDATE:

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant is operating at 100% power with no abnormal conditions. A section of piping in the Fuel Pool Cooling (FPC) and Cleanup System must be drained to support continuing modification work on the Unit 2 & 3 Spent Fuel Pools. A ¾ inch drain valve has been identified for use in draining and is accessible only by extension ladder. The valve is approximately 12 feet above the floor in a group of pipes. During a pre-job brief, the HP provided the following information:

- Contamination levels in the work area range from 25,000 to 50,000 DPM/100 CM2
- The dose rate in the work area has recently been measured at 50 MREM/HR

INITIATING CUES:

You have been directed to determine the requirements of the RWP that is applicable to draining a section of FPC and Cleanup System piping. Specific requirements will be identified through the use of examiner cues during this JPM.

START TIME: _______

CUE: **Determine the applicable RWP.** STEP 1.: Operator determines applicable RWP STANDARD: Operator determines RWP H01-003 is applicable. ***CRITICAL STEP TO DETERMINE PROPER RWP*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
CUE: **Determine the required protective clothing necessary to perform the stated task under the RWP.** STEP 2.: Operator determines the required protective clothing. STANDARD: Operator determines the following PCs are required: For climbing, a full set of protective clothing and cloth hood. (multiple surgeon gloves may be used in lieu of rubber gloves) COMMENTS:	___ SAT ___ UNSAT
CUE: **Determine the dosimetry required under the RWP.** STEP 3.: Operator determines the dosimetry required. STANDARD: Operator determines that an alarming dosimeter (accept electronic dosimeter) and a TLD are required. COMMENTS:	___ SAT ___ UNSAT

CUE:	**Determine the dose alarm setpoint and the dose rate alarm setpoint in effect under the RWP.**	___ SAT
STEP 4.:	Operator determines the setpoints for the alarming dosimeter.	
STANDARD:	Operator determines the following setpoints: • Dose alarm: 30 MREM • Dose rate alarm: 1000 MREM/HR	___ UNSAT
COMMENTS:		
CUE:	**Determine the conditions under which the Radiation Control Center needs to be notified in accordance with the RWP.**	___ SAT
STEP 5.:	Operator determines the notifications required.	
STANDARD:	Operator determines the following notification is required: • Prior to performing any activity that could change radiological conditions (ex. contaminated system breach) • Prior to climbing in the overhead	___ UNSAT
COMMENTS:		
CUE:	**Determine the maximum "stay time" based on the administrative dose limit allowed by the RWP.**	**CRITICAL STEP**
STEP 6.:	Operator determines the maximum stay time.	___ SAT
STANDARD:	Operator determines the maximum stay time is 48 minutes (40 MREM/50 MREM per HR = 0.8 HR X 60 MIN/HR = 48 MIN). EVALUATOR NOTE: Operator may determine that they are required to leave the work area when the dose alarm setpoint is reached. Using this basis, the operator should calculate the maximum stay time is 36 minutes (30 MREM/50 MREM per HR = 0.6 HR X 60 MIN/HR = 36 MIN). This is an acceptable response as long as the correct stay time is provided. ***CRITICAL STEP TO DETERMINE CORRECT STAY TIME***	___ UNSAT
COMMENTS:		
	END OF JPM	

STOP TIME: ________

CANDIDATE CUE SHEET
(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

INITIAL CONDITIONS:

The plant is operating at 100% power with no abnormal conditions. A section of piping in the Fuel Pool Cooling (FPC) and Cleanup System must be drained to support continuing modification work on the Unit 2 & 3 Spent Fuel Pools. A ¾ inch drain valve has been identified for use in draining and is accessible only by extension ladder. The valve is approximately 12 feet above the floor in a group of pipes. During a pre-job brief, the HP provided the following information:

- Contamination levels in the work area range from 25,000 to 50,000 DPM/100 CM2
- The dose rate in the work area has recently been measured at 50 MREM/HR

INITIATING CUES:

You have been directed to determine the requirements of the RWP that are applicable to the stated task. Specific requirements will be identified through the use of examiner cues during this JPM.

HARRIS NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

JPM A.4-SRO

Perform an Emergency Action Level Classification and Recommend Protective Actions

CANDIDATE ____________________

EXAMINER ____________________

HARRIS NUCLEAR PLANT
INITIAL LICENSE EXAMINATION
JOB PERFORMANCE MEASURE

Task:

Perform an Emergency Action Level Classification and Recommend Protective Actions

Alternate Path:

N/A

Facility JPM #:

N/A (NEW)

K/A Rating(s):

2.4.41 (4.1) Knowledge of the emergency action level thresholds and classifications.
2.4.44 (4.0) Knowledge of emergency plan protective action recommendations.

Task Standard:

General Emergency determined due to ATWS while in Mode 1 (MCB manual trip not successful) with fuel fission product barrier breached (EAL 8-1-4) AND PARs completed satisfactorily.

Preferred Evaluation Location: Simulator __X__ In-Plant _____

Preferred Evaluation Method: Perform __X__ Simulate _____

References:

Emergency Action Level Flow Path, Rev. 00-1
PEP-110, Emergency Classification and Protective Action Recommendations, Rev. 6

Validation Time: 15 min. **Time Critical:** Yes (see Examiner Note below)

==

Candidate: ______________________________ Time Start : ________
NAME Time Finish: ________

Performance Rating: SAT ______ UNSAT ______ Question Grade ______ Performance Time ______

Examiner: ______________________________ ______________________________/________
NAME SIGNATURE DATE

==

Examiner Note: Entire JPM is not time critical. Time from EAL determination to PAR determination is time critical.

COMMENTS

Tools/Equipment/Procedures Needed:

Emergency Action Level Flow Path, Rev. 00-1
PEP-110, Rev. 6, Attachment 3

NOTE: PROVIDE CANDIDATE WITH JPM ATTACHMENT WITH REQUIRED DATA UPON INITIATION OF JPM.

READ TO OPERATOR

DIRECTION TO CANDIDATE:

I will explain the initial conditions, and state the task to be performed. All steps shall be performed for this JPM, including any required communications. I will provide initiating cues and reports on other actions when directed by you. Ensure you indicate to me when you understand your assigned task. To indicate that you have completed your assigned task return the handout sheet I provided you.

INITIAL CONDITIONS:

The plant was operating normally at 100% power until 15 minutes ago when the following area radiation monitors went into high alarm:

- Volume Control Tank Rm RM-1RR-3595
- Charging Pump 1B Room RM-1RR-3599B
- Letdown Hx Vlv. Gal. RM-1RR-3601

Subsequently, a manual reactor trip was directed but was not successful using either Main Control Board switch. EOP-FRP-S.1 is currently being implemented and control rods are being manually inserted.

In addition, the following plant conditions are noted:

- All equipment is functioning properly unless otherwise noted
- The subcriticality status tree is red and the remaining CSFSTs are currently green or yellow

- Containment conditions are normal
- The Volume Control Tank Rm, Charging Pump 1B Room and Letdown Hx Vlv. Gal. area radiation monitors are reading 500 times normal and rising
- The CNMT Leak Detection Noble Gas Radiation Monitor is reading 7.2E-3 μCi/cc
- Reactor power is 3% and lowering
- Plant Vent Stack #1 WRGM effluent channel is reading 9.5E1 μCi/sec
- The most recent RCS activity sample was 95 μCi/cc
- The GFFD recorder indication has increased from 9.0E2 to 2.0E5 cpm
- The RCS is subcooled by 82°F
- Core damage assessments are not yet available
- Emergency does projections are not yet available

INITIATING CUES:

You are to classify this event, entering the EAL Network at Entry Point "X" as directed by EOP-PATH-1.

START TIME: _______

STEP 1.: Operator locates procedure and required information. STANDARD: Operator locates EAL Flow Path COMMENTS:	___ SAT ___ UNSAT
STEP 2.: Operator enters EAL Flow Path at proper location. STANDARD: Operator enters EAL Flow Path at Entry Point "X" COMMENTS:	___ SAT ___ UNSAT
STEP 3.: Operator initiate monitoring of Critical Safety Functions. STANDARD: Directs Unit SRO (or STA) to initiate monitoring COMMENTS:	___ SAT ___ UNSAT
STEP 4.: Any Rad Monitor in EAL Table 1 in High Alarm STANDARD: Operator determines several fuel breach area rad monitors are in high alarm. Answers YES COMMENTS:	___ SAT ___ UNSAT

STEP 5.: Plant Vent Stack #1 WRGM Effluent Chnl > 3.6E5 µCi/sec. STANDARD: Operator determines value is < 3.6E5 µCi/sec. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 6.: Either CNMT Hi Range Accident Mon > 17.5 R/hr. STANDARD: Operator determines value is < 17.5 R/hr. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 7.: Any EAL Table 2 Monitor > 1000 times normal. STANDARD: Operator determines values are < 1000 time normal. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 8.: Was Entry at Point "T." STANDARD: Operator determines Entry Point was "X." Answers NO COMMENTS:	___ SAT ___ UNSAT

	CRITICAL STEP
STEP 9.: GFFD Increased > 1.0E5 cpm in 30 min. STANDARD: Operator determines value has increased > 1.0E5 cpm in 30 min. using initial conditions provided. Answers YES and indicates that's the fuel is breached ***CRITICAL STEP TO DETERMINE FUEL IS BREACHED.*** COMMENTS:	___ SAT ___ UNSAT
STEP 10.: EOP PATH-2 entered. STANDARD: Operator determines PATH-2 has not been entered. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 11.: CNMT Leak Detection Rad Mon Noble Gas Chnl > 8E3 μCi/cc STANDARD: Operator determines CNMT Leak Detection Rad Mon Noble Gas Chnl < 8E3 μCi/cc. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 12.: Was Entry at Point "U." STANDARD: Operator determines Entry Point was "X." Answers NO COMMENTS:	___ SAT ___ UNSAT

STEP 13.: RCS Leakage > 50 gpm. STANDARD: Operator determines there is no indication of RCS leakage. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 14.: Integrity CSF Magenta or RED. STANDARD: Operator determines all CSFSTs are green or yellow. Answers NO and indicates RCS is intact COMMENTS:	___ SAT ___ UNSAT
STEP 15.: Was Entry at Point "V." STANDARD: Operator determines Entry Point was "X." Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 16.: Was Entry at Point "T." STANDARD: Operator determines Entry Point was "X." Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 17.: CNMT Phase A or Ventilation Isolation Required. STANDARD: Operator determines that neither Phase A or Ventilation Isolation is required based on initial conditions. Answers NO COMMENTS:	___ SAT ___ UNSAT

STEP 18.: Both Fuel and RCS Intact on FPB Status Board. STANDARD: Operator determines Fuel is breached. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 19.: Pathway for Fission Products to Escape CNMT Exists Other Than Secondary Systems. STANDARD: Operator determines no path ways exist. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 20.: Primary to Secondary Leakage in any SG > 10 gpm. STANDARD: Operator determines there is no indication of primary to secondary leakage based on initial conditions. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 21.: SG Pressure > 1230 psig. STANDARD: Operator determines SG pressure is < 1230 psig. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 22.: CNMT Pressure > 3 psig. STANDARD: Operator determines CNMT pressure is < 3 psig. Answers NO and indicates CNMT is intact. COMMENTS:	___ SAT ___ UNSAT

STEP 23.: 3 FPBs Breached/Jeopardized. STANDARD: Operator determines one FPB (fuel) breached. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 24.: 2 FPBs Breached/Jeopardized. STANDARD: Operator determines one FPB (fuel) breached. Answers NO COMMENTS:	___ SAT ___ UNSAT
STEP 25.: 1 FPB Breached/Jeopardized. STANDARD: Operator determines one FPB (fuel) breached. Answers YES and indicates an ALERT is exceeded (EAL 2-1-2). COMMENTS:	___ SAT ___ UNSAT
STEP 26.: ATWS While In Mode 1 or 2. STANDARD: Operator determines an ATWS condition exists from initial conditions. Answers YES ***CRITICAL STEP TO DETERMINE ATWS CONDITION EXISTS.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT

STEP 27.: MCB Manual Reactor Trip Successful (either switch). STANDARD: Operator determines manual reactor was not successful using either MCB switch. Answers NO ***CRITICAL STEP TO DETERMINE MANUAL REACTOR TRIP WAS NOT SUCCESSFUL.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 28.: Fuel FPB Breached. STANDARD: Operator determines the fuel is breached. Answers YES and determines that a GENERAL EMERGENCY is exceeded (EAL 8-1-4) ***CRITICAL STEP TO DETERMINE GENERAL EMERGENCY (EAL 8-1-4) EXCEEDED.*** ***NOTE:*** ***If Operator fails to determine General Emergency EAL exceeded, the JPM should be terminated at this point as PARs would not be applicable.*** COMMENTS:	**CRITICAL STEP** ___ SAT ___ UNSAT
STEP 29.: Operator terminates classification activities following declaration of General Emergency and transitions to notification activities. STANDARD: Operator records time of event declaration and transitions to notification activities. CUE: **Inform the Operator that others will handle the notification activities and that the Operator is to determine the applicable Protective Action Recommendations (PARs).** CUE: **Inform Operator THIS IS A TIME CRITICAL ELEMENT OF THIS JPM** ***NOTE:*** ***Record time of event declaration:*** ***START TIME (for PAR determination):*** ________ COMMENTS:	___ SAT ___ UNSAT

STEP 30.: Obtain proper procedure. STANDARD: Operator obtains copy of PEP-110 and enters Attachment 3 (may also enter Section 3.3 which refers to Attachment 3). COMMENTS:	___ SAT ___ UNSAT
STEP 31.: Determine if a General Emergency has been declared. STANDARD: Operator determines a General Emergency has been declared. Answers YES COMMENTS:	___ SAT ___ UNSAT
STEP 32.: Substantial core damage is imminent or has occurred. STANDARD: Operator determines no substantial core damage based on Note 1, Note 4 and initial conditions: • Core damage estimations not available and they are NOT to assume >l% Melt. • Core Exit Thermocouple readings NOT > 2300°F. • Core NOT uncovered > 30 minutes. • There is no direct release pathway to the environment Answers NO **CUE: Provide the Operator Attachment A, Meteorological Conditions** COMMENTS:	___ SAT ___ UNSAT

STEP 33.:	Determine wind direction.	**CRITICAL STEP**
STANDARD:	Operator determines wind direction is FROM 272° ***CRITICAL STEP TO DETERMINE PROPER WIND DIRECTION TO SUPPORT PROPER PAR DETERMINATION.***	___ SAT
COMMENTS:		___ UNSAT
STEP 34.:	Makes Protective Action Recommendation.	**CRITICAL STEP**
STANDARD:	Operator makes PAR based on wind direction and plant conditions as follows: • Evacuates Subzones A, B, C, and D (2 mile radius and 5 miles downwind). • Shelters Subzones E, F, G, H, I, J, K, L, M, and N (remaining subzones). ***CRITICAL STEP TO DETERMINE PROPER PAR WITHIN 15 MINUTES OF EVENT DECLARATION.***	___ SAT ___ UNSAT
NOTE:	***Record time Operator determines PAR:*** ***STOP TIME (for PAR determination):*** ________ ***TIME for PAR determination (See Step 29):*** ________	
COMMENTS:		
	END OF TASK	

STOP TIME: ________

CANDIDATE ATTACHMENT A

(TO BE RETURNED TO EXAMINER UPON COMPLETION OF TASK)

METEOROLOGICAL CONDITIONS

The following meteorological conditions exist:

- Wind speed is 9 mph
- Wind direction is 272°
- Stability class is D

CANDIDATE CUE SHEET
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INITIATING CUES:

You are to classify this event, entering the EAL Network at Entry Point "X" as directed by EOP-PATH-1.