2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1390040303 Approve MBA Form Changes

TASK STANDARD: Find errors in the MBA Transfer Form

K/A: 2.2.27 K/A RATING: RO: SRO: 3.5

K/A:

APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 20 min

REFERENCES: 72DP-9NF01 Control of SNM Transfer and Inventory, Technical Specifications

SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Jim Ledford TECH REVIEW: _____

REVISION DATE: 10-01-04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]

TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

Date _____

GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Procedure 72DP-9NF01 Control of SNM Transfer and Inventory
- Technical Specifications
- MBA Transfer Package associated with this JPM

2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **You have a signed and approved transfer package to move five New fuel Assemblies enriched to 3.5 weight % from the New Fuel Storage Racks to the Spent Fuel Pool.**

- **Your tasks are to:**

  1. **Perform the LAST BULLET of step 3.7.4.2.3 of 72DP-9NF01 using appendix K of 72DP-9NF01.**
  2. **Ensure that surveillance requirement SR 3.7.17.1 is satisfied in accordance with the Transfer Package Form Set provided.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.

2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

- No attempt will be made to actually operate any valves.
- It is preferred that this JPM be performed at the RP Island in preparation to performing an in plant/inside the RCA JPM

2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: [ ]

	STEP	CUE	STANDARD
1.*	Performs the last bullet of step 3.7.4.2.3 of 72DP-9NF01; Verify that the "to" location is valid for each fuel assembly.		Determine that Fuel Assembly P1P103 cannot go into Spent Fuel Location BB05 because it is blocked. Reference Appendix K of 72DP-9NF01
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Ensure Surveillance requirement 3.7.17.1 is satisfied.		Determine that P1P105 cannot be stored in Spent Fuel Pool Location BB10. Reference Tech Spec figure 3.7.17-2 and step 3.2.8 of 72DP-9NF01
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: [ ]

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
A1
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	10/1/04	6	New JPM

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIATING CUE:

- **You have a signed and approved transfer package to move five New fuel Assemblies enriched to 3.5 weight % from the New Fuel Storage Racks to the Spent Fuel Pool.**

- **Your tasks are to:**

    3. **Perform the LAST BULLET of step 3.7.4.2.3 of 72DP-9NF01 using appendix K of 72DP-9NF01.**
    4. **Ensure that surveillance requirement SR 3.7.17.1 is satisfied in accordance with the Transfer Package Form Set provided.**

CANDIDATE

TRANSFER PACKAGE COVER SHEET (page 1 of 3)

SECTION 1: COMPLETE PRIOR TO SNM TRANSFERS

Transfer Set # 1 - 11 - 9 # Pages in Form Set 32 Active Date 02 / 05 / 04

Reason for SNM transfers *Receipt of U1C12 Reload Fuel Assemblies*

CHECK ONE to specify control of transfer sequence. This transfer sequence is:

☐ Pre-Planned, involves CORE ALTS, Reqd Attachment ___ provided, TFR reqd for changes.

☐ Pre-Planned, involves SFP moves, TFR reqd for changes.

☑ Field-Directed, involves SFP moves, Reqd Attachment A provided, ***TFR reqd for changes as noted.***

☐ Field-Directed, no SFP moves, TFR not reqd for changes.

Optional attachments n/a provided for info. Current SFP Region Spec Burnup Date 08 / 31 / 02

Form Set Prepared by John Smith (Rx Eng Rep) 1 to 5 (Lines) 11 / 15 / 04 (Date)

Form Set Independently Verified & Approved For Use by
(and for SFP-related sequences, SR 3.7.17.1 is satisfied)

John Doe (Rx Eng) 1 to 5 (Lines) 11 / 18 / 04 (Date)

****

****

SECTION 5: COMPLETE AFTER SNM TRANSFERS

Inactive Date ___/___/___

Fuel Assembly History Update Performed by _____ (Rx Eng Rep) ___/___/___ (Date)

Non-Fuel SNM History Update Performed by _____ (Rx Eng Rep) ___/___/___ (Date)

Dry Cask-Related Sequence yes or no (circle one) TSC Equipment ID _____

Comments Attached yes or no (circle one)

Layout Pkg & Inventory Summary required yes or no (circle one).

# of Original Form Set Pages	_____
# of Original Required Attachment Pages	_____
# of TFR Log Pages	_____
# of Additional Form Set and Required Attachment Pages	_____
# of Pin Move Sheets	_____
# of Layout Package Pages (or Current Layout shown in prev ___-___-___)	_____
# of Inventory Summary Pages	_____
# of Miscellaneous Pages (incl Cover Sheet, optional attachments)	_____
Total Number of Transfer Package Pages	_____

Completed by _____ (Rx Eng Rep) ___/___/___ (Date)

As-Performed Package Reviewed by _____ (Rx Eng) ___/___/___ (Date)

As-Performed Package Approved by _____ (Rx Eng Sec Ldr) ___/___/___ (Date)

Fuel Receipt 741s YLM-XTE-___ through ___

NOTE: U1C12 Fuel Receipt WO#_____

Transfer Package Page 1 of 3

CANDIDATE

MBA TRANSFER FORM

TRANSFER SET NUMBER 1 - 11 - 9

FORM SET PAGE 1 OF 32

LINE #	SNM IDENT.	CURR MAST DET.	ROT. TO DET.	FROM			ROT. TO DET.	TO			DOCUMENTED BY		COMMENTS	REV #
				MBA	CORD	ORN.		MBA	CORD	ORN.	INIT	TIME	DATE	
1	P1P101	n/a	n/a	NFPIT	NA	NA	n/a	NFSR	D-10	N	m	0700	11/20/04	n/a
2	P1P102	n/a	n/a	NFPIT	NA	NA	n/a	NFSR	E-10	N	m	0815	11/20/04	n/a
3	P1P103	n/a	n/a	NFPIT	NA	NA	n/a	NFSR	F-10	N	m	0715	11/21/04	n/a
4	P1P104	n/a	n/a	NFPIT	NA	NA	n/a	NFSR	D-9	N	m	0815	11/24/04	n/a
5	P1P105	n/a	n/a	NFPIT	NA	NA	n/a	NFSR	E-9	N	m	1130	11/21/04	n/a
6		n/a	n/a				n/a							n/a
7		n/a	n/a				n/a							n/a
8		n/a	n/a				n/a							n/a
9		n/a	n/a				n/a							n/a
10		n/a	n/a				n/a							n/a
11		n/a	n/a				n/a							n/a
12		n/a	n/a				n/a							n/a
13		n/a	n/a				n/a							n/a
14		n/a	n/a				n/a							n/a
15		n/a	n/a				n/a							n/a

Transfer Package Page 2

CANDIDATE

U1C12 NEW FUEL ASSEMBLY SFP LOCATIONS

NOTE: TFR required for changes to assy-specific locations, except as noted below.

NOTE: ***DD08 & EE09 are alternate SFP locations available for any P1Pxxx assy*** being stored in the SFP should the specified location be inappropriate for any reason.

NOTE: Using an alternate location provided above does not require a TFR, but a TFR shall be required to specify additional alternate locations if necessary.

Reference 1: MBA Transfer Package 1-11-8 (closed, includes maps) used to determine available locations.

Reference 2: NA-01-C12-2003-012, revision 00, "Unit 1 Cycle 12 Design Physics Model," Table 2.3, used to determine batch sizes (serial numbers).

FA #	SFP LOC
P1P101	BB02
P1P102	BB04
P1P103	BB05
P1P104	BB08
P1P105	BB10

CANDIDATE

2004 LSROI NRC EXAM
A2
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1290020301 Conduct On Shift Operations IAW Conduct of Shift Operations

TASK STANDARD: Determine qualification status as qualified. Determine proper REP task, contact RP, and enter the RCA. Upon entering your EPD alarms.

K/A:	2.3.10	K/A RATING:	RO:	2.9	SRO:	3.3
K/A:	2.3.4			2.5		3.1

APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 30 min

REFERENCES: NGW01, Initial Radiation Worker Practices. REP 3-3022F

SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Phillip Capehart TECH REVIEW: _____

REVISION DATE: 09/29/2004 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]

TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

Date _____

GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
A2
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- A copy of the "REFUELING MACHINE CAMERA MAINTENANCE: REMOVE, REPAIR, AND REINSTALL" REP (i.e. REP 3-3022F attached)

2004 LSROI NRC EXAM
A2
PVNGS JOB PERFORMANCE MEASURE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Given the following initial conditions.

- **Unit 3 is preparing for core offload.**
- **This will be your first entry into the RCA this outage.**
- **You are going to enter containment to identify the location (i.e. equipment setup) for placing the refuel camera on the Refuel platform. No hands on work is to be performed at this time.**

You are to:

- **Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.**
- **Given the appropriate REP for this job (3-3022F), discuss the following radiological requirements to perform this task:**
  - **Correct task # appropriate for the job scope.**
  - **Limitations associated with the REP.**
  - **Dosimetry required and the appropriate settings**
  - **Radiation Protection Coverage Requirements.**

Once the REP requirements for this evolution have been addressed, entry into the RCA will be made (or simulated) on the appropriate REP. Examinee may discuss entry requirements with RP.

NOTE: NO ENTRY INTO A HIGH RADIATION AREA OR CONTAMINATED AREA WILL ACTUALLY BE MADE.

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- No attempt will be made to actually operate <u>any</u> valves.
- **Notes to examiner:**

  No entry into a High Radiation Area or Contaminated Area will be allowed. Examinee may discuss entry requirements with RP.

- It is preferred that this JPM be performed at the RP Island in preparation to performing an in plant/inside the RCA JPM

2004 LSROI NRC EXAM
A2
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1.*	Enters employee information into Qualification Computer Station (or SWMS program on personal PC) to query qualification status	**After the candidate completes this step provide him/her with the REP.** **(REP 3-3022F)**	Uses computer and determines qualification status of **"RAD WORKER** as **"Yes".** (Note: a personal PC may be used in lieu of the Qualification Computer Station to access SWMS, SWMS Intranet web site or SWMS Warehouse to verify qualifications)
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Determine the correct task number for the evolution.		Examinee selects appropriate task number (e.g. REP 3-3022F, Task 1, Refueling Operations and Support Work)
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
3 *	Determine the REP Limitations		Examinee determines the REP radiological limitations (e.g. NO VHRA Entry, NO Entry INTO > 5,000 mREM/hr., NO Containment Entry in Plant Modes 1-2) (pg 1 of 20)
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
4. *	Determine Dosimetry (with appropriate settings).		Examinee determines EPD is required with settings as stated on the REP (e.g. set at 50 mRem dose and 1000 mREM/hr Dose Rate.) (pg 6 of 20)
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
5. *	Determines RP coverage requirements.	**After** Examinee determines **INTERMITTENT** coverage is required. **INFORM CUE: All entry requirements have been met. Enter (or simulate entering) the RCA and proceed to the dress out area.**	Examinee determines **INTERMITTENT** coverage is required. **Note to evaluator: Once the REP requirements for the evolution have been addressed, entry into the RCA will be made (or simulated).**
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
6.	Enter the Auxiliary Building.	Note to evaluator, when examinee has reached the dress out station, initiate the following cue: **INFORM CUE: Your EPD is in alarm and is reading a dose of 50 mrem.**	Examinee enters the Auxiliary Building, and proceeds to the dress out station.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
7. *	Does not enter containment and contacts RP.	IF REQUESTED CUE: RP has been contacted. **INFORM CUE: This completes this JPM.**	Does not enter containment. Examinee returns to RP island and informs RP of suspect EPD reading.
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: [ ]

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
A2
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	3/24/99	6	New Admin Task JPM
1	4/11/01	6	Include step to verify qualifications.

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIAL CONDITIONS

INITIATING CUE:

Given the following initial conditions.

- **Unit 3 is preparing for core offload.**
- **This will be your first entry into the RCA this outage.**
- **You are going to enter containment to identify the location (i.e. equipment setup) for placing the refuel camera on the Refuel platform. No hands on work is to be performed at this time.**

You are to:

- **Use a Qualification Computer Station or PC to determine your GET RADWORKER qualification status prior to entry into the RCA.**
- **Given the appropriate REP for this job (3-3022F), discuss the following radiological requirements to perform this task:**
  - **Correct task # appropriate for the job scope.**
  - **Limitations associated with the REP.**
  - **Dosimetry required and the appropriate settings**
  - **Radiation Protection Coverage Requirements.**

Once the REP requirements for this evolution have been addressed, entry into the RCA will be made (or simulated) on the appropriate REP. Examinee may discuss entry requirements with RP.

Note: No entry into a High Radiation Area or Contaminated Area will actually be made.

CANDIDATE

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

Location: CONTAINMENT AND FUEL BUILDINGS

Job Scope: Refueling Operations, including: Refueling Machine / Spent Fuel Handling Machine operations, Fuel sipping, installation / removal of SFP-Transfer Canal Weir Gate, Quick Operating Closure Device (QOCD), Refueling Machine Camera, retrieval of foreign material (FOSAR) from the Refuel Pool (RFP)/ Spent Fuel Pool (SFP), failed fuel inspections, measurements, reconstitution and ultrasonic testing (UT) .

Limitations:

No VHRA Entry

No Entry into >5,000 mREM/hr at 12 inches

NO Containment Entry In Plant Modes 1-2

Survey Location	Dose Rates (mRem/hr)	Contamination (dpm/100 Sq. cm)	Additional Information	Survey or A/S ID #
140’ Refuel Cavity.	2-6		During core offload water @ ~137'.	3-03-01175
Refuel Machine	<2-3		During core offload water @ ~137'.	3-03-01175
Refuel Machine	<2-3		During core reload water @ ~137'.	3-03-01892
140’ Refuel Cavity.	2-6		During core reload water @ ~137'.	3-03-01892
Tri-Nuke Skimmer	*150/+50		During refueling operations with cavity @ ~137'	3-03-01892
Quick Operation Closure Device (QOCD)	5	10,000-200,000		3-03-00766
140’ Fuel Building general area	< 2	1000-8000	During fuel inspection	3-03-01398
Weir Gate	*2000/+50	4000-15000	Highest dose rates on bottom.	3-03-01657 3-03-01689

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

Task #	Task / Job Evolution	Dosimetry, Protective Clothing and Respiratory Requirements	RP Coverage Requirements	Pre-Job Brief Required
1	**Refueling operations and support work** • Work around SFP / RFP • Installation and removal of fuel handling lights and inspection equipment. • Installation and removal of QOCD • Fuel Handling • Fuel Sipping • Underwater work in SFP / RFP • Equipment set up and PM's • Other tasks as authorized by RPL HRA / LHRA ENTRY ***FORMAL PJB AND RP AUTHORIZATION REQUIRED***	• EPD • Special Dosimetry "F" pack, consisting of chest and finger ring TLD's for manual handling of material >1000 mR/hr contact (where required I.A.W. 75RP9RP16 per RPL evaluation). • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Intermittent • Continuous: • In LHRA • During fuel movement • Removal of items from SFP / RFP	YES

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

Task #	Task / Job Evolution	Dosimetry, Protective Clothing and Respiratory Requirements	RP Coverage Requirements	Pre-Job Brief Required
2	**Weir gate work** • Install / remove SFP-Transfer Canal Weir Gate to include: HRA ENTRY ***FORMAL PJB AND RP AUTHORIZATION REQUIRED***	• EPD • Special Dosimetry "F" pack, consisting of chest and finger ring TLD's for manual handling of material >1000 mR/hr contact (where required I.A.W. 75RP9RP16 per RPL evaluation). • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Continuous	YES
3	**Removal (FOSAR) of items from Refuel / Spent Fuel Storage pools.** • Removal of Refuel Camera from RFP. to include: HRA / LHRA ENTRY ***FORMAL PJB AND RP AUTHORIZATION REQUIRED***	• EPD • Special dosimetry "F" pack consisting of Chest and Finger Ring TLD's for manual handling of material >1000 mr/hr contact (where required I.A.W. 75RP-9RP16 per RPL evaluation). • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Continuous	YES

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

Task #	Task / Job Evolution	Dosimetry, Protective Clothing and Respiratory Requirements	RP Coverage Requirements	Pre-Job Brief Required
4	**Non HRA work around the SFP/ RFP** • Perform Ultrasonic testing functions • Inspect / repair UT & Refuel equipment • Equipment PM's No HRA ENTRY	• EPD • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Intermittent	
5	**Fuel Disassembly / Reassembly for Reconstitution and Diagnostic Inspections** • Fuel disassembly / reassembly • Diagnostic fuel inspections • Fuel measurements • Ultrasonic testing • Support work • Additional work as authorized by RPL HRA / LHRA ENTRY ***FORMAL PJB AND RP AUTHORIZATION REQUIRED***	• EPD (Telemetric EPD for reconstitution) • Special dosimetry "F" pack consisting of Chest and Finger Ring TLD's for manual handling of material >1000 mr/hr contact (where required I.A.W. 75RP-9RP16 per RPL evaluation). • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Intermittent • Continuous: • In LHRA • During fuel handling, disassembly / reassembly • Removal of items from SFP, Transfer Canal.	YES

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

Task #	Task / Job Evolution	Dosimetry, Protective Clothing and Respiratory Requirements	RP Coverage Requirements	Pre-Job Brief Required
6	**Removal of Fuel UT / Reconstitution Equipment from SFP at conclusion of job.** HRA / LHRA ENTRY ***FORMAL PJB AND RP AUTHORIZATION REQUIRED***	• EPD • Special dosimetry "F" pack consisting of Chest and Finger Ring TLD's for manual handling of material >1000 mr/hr contact (where required I.A.W. 75RP-9RP16 per RPL evaluation). • • CA entry - Full Set • HCA / HPCA entry - Double Set • Wet Work - Wet Set • Respiratory Protection per TEDE ALARA Evaluation (attached as appropriate)	• Intermittent • Continuous: • In LHRA • During removal of items from SFP, Transfer Canal.	YES

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

E.P.D. Settings

Task #	Minimum Dose Available Required for Entry	Dose Alarm	Dose Rate Alarm	E.P.D. Chirp Rate
1	50 mREM	50 mREM	1,000 mREM/hr	One Chirp / 0.1 mREM
2	50 mREM	25 mREM	500 mREM/hr	One Chirp / 0.1 mREM
3	75 mREM	50 mREM	1,000 mREM/hr	One Chirp / 0.1 mREM
4	25 mREM	15 mREM	75 mREM/hr	One Chirp / 0.1 mREM
5	75 mREM	50 mREM	1,000 mREM/hr	One Chirp / 0.1 mREM
6	75 mREM	50 mREM	1,000 mREM/hr	One Chirp / 0.1 mREM

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 1 - REFUELING OPERATIONS AND SUPPORT WORK

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Half set PCs may be worn for a CA entry in the Fuel Building as authorized by RP.
- RP may relax outer protective clothing requirements for wet work associated with installing / removing equipment from the RFP or SFP.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by RP prior to each entry.
- RPL authorization required for handling fuel or removing items from the SFP when Fuel Building normal ventilation is out of service.
- Notify RP prior to moving fuel.
- Notify RP prior to moving spent fuel near any weir gate (reference 72DP-9NF01).
- Notify RP prior to removal of any items from the SFP, RFP.
- RPL shall record evaluation[s] for manual handling of material >1,000 mR/hr contact in RP Log.

PREREQUISITES

- Ensure the Rx Head is installed or the 140' Cavity dose rate is less than or equal to 5 mR/hr before installing or removing RFP lights.
- Verify fuel building normal ventilation is in service and set up contamination control laydown area prior to fuel handling or removing items from the SFP Transfer Canal.
- Area radiation monitor (EC-4 or equivalent) is set-up and operable at the job site prior to handling fuel, setpoints per RPL (verify operability daily).
- Verify the Pre Access Filtration is running in parallel with the normal Refuel Purge prior to fuel sipping operations.
- Continuous Air Monitor operating at job site during all fuel handling, setpoints per RPL (verify operability daily).
- Conitinuous Air Monitor with in-line gas head and telemetric transmitter set up and operable on Trolley near gas stripper discharge line during fuel sipping operations, set points per RPL (verify operablity daily).
- Notify RMS Technician to restore RU-33 to normal settings before moving fuel and prior to fuel sipping operations.
- Notify Operations of the quantity of water to be added to SFP/RFP prior to starting any rinsing evolution.
- Ensure Cask Loading Pit and Transfer Canal are filled with water prior to moving spent fuel assemblies adjacent to these regions of the SFP.
- Lead blankets should be staged inside Zone III prior to removing material from SFP Transfer Canal. Adhere to appropriate procedures for floor loading and transient combustibles.
- Notify RMS Technician to evaluate RU monitor set points prior to removing any items from SFP, RFP

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 1 - REFUELING OPERATIONS AND SUPPORT WORK

PREREQUISITES

- AMP-50/100 or equivalent with telemetric monitoring on fuel sipping skid suction line.
- Blue lines run along South walk way and on Trolley, ready for flushing evolution.
- Temporary shielding (TSP #C-140-21 or TSP # C-140-02) installed on fuel sipping skid and/or Trolley to decrease GA dose rates during fuel movement.

ALARA / ENGINEERING CONTROLS

- Wipe down or change outer gloves frequently.
- Rinse or wipe down items removed from the SFP or RFP. Items removed from the SFP or RFP shall be treated as highly contaminated and hot particle material until surveys indicate otherwise.
- Flush fuel sipping skid after discovery of a leaking fuel assembly or if fuel movement is delayed for an extended period or as directed by RPL dependent upon the action level dose rates of 3mR/hr or 5 mR/hr.
- Stand by in low dose "Cold Area" when not actively involved in job.

RADIOLOGICAL HOLD POINTS

- When area Radiation Monitor alarms during fuel handling, immediately place refueling equipment in a safe position and exit. RP to notify workers in area and control access.
- No removal of items greater than or equal to 1 REM/hr at 12 inches.
- No lying down on pool edge while removing items from the Spent Fuel Pool or Refuel Pool.
- No removal or direct handling of fuel sipping source from shield pig. Use syringe for required amount of source to complete necessary checks.
- Stop evolution and notify RP if fuel sipping source is dropped or lost.

RADIOLOGICAL SURVEILLANCE

- Post fuel transfer tube expansion joints on 80', 100', and 120' elevations of Containment "High Radiation Area" and "Radiation Protection Hold Point" prior to fuel movement.
- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Post West End of Refuel Pool "Elevated Dose Rates, Do Not Linger" during fuel movement.
- If AMS-4 with in-line gas head alarms, pull in-line marinelli from sampler and take a gas grab at specified location; submit to Count Room personnel for analysis.
- Closely monitor items being removed from SFP/RFP.

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 1 - REFUELING OPERATIONS AND SUPPORT WORK

RADIOLOGICAL SURVEILLANCE

- Contact RPL if, during sipping operations, GA dose rate on Refuel Bridge reaches 3 mR/hr for evaluation or 5 mR/hr for action plan. Management team to evaluate and reccommend actions.
- Perform airborne surveys for tritium when working over SFP/RFP as necessary.
- Closely monitor rags used for wiping items as they are removed from the SFP/RFP.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm²
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL
- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 2 - WEIR GATE WORK

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Half set PCs may be worn for a CA entry in the Fuel Building as authorized by RP.
- RP may relax outer protective clothing requirements for wet work associated with installing / removing equipment from the SFP / Transfer Canal.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by RP prior to each entry.
- Notify RP prior to removal of any items from the SFP / Tranfer Canal.
- RPL authorization required for removing items from the SFP when Fuel Building normal ventilation is out of service.

PREREQUISITES

- Notify Control Room and RMS Technician (to evaluate RU-31 set points) prior to movement of Weir Gate.
- Stage materials to wrap the Weir Gate prior to removal.
- Notify Operations of the quantity of water to be added to SFP prior to starting any rinsing evolution.
- Verify fuel building normal ventilation is in service prior to movement of Weir Gate.

ALARA / ENGINEERING CONTROLS

- Rinse or wipe down items removed from the SFP Transfer Canal. Items removed from the SFP Transfer Canal shall be treated as highly contaminated and hot particle material until surveys indicate otherwise.
- Wrap the Weir Gate upon removal to minimize airborne contamination and the spread of loose contamination. The contamination control wrapper shall be inspected and approved by RP prior to initial use.
- Wipe down or change outer gloves frequently.
- Stand by in low dose "Cold Area" when not actively involved in job.

RADIOLOGICAL HOLD POINTS

- No removal of items greater than or equal to 5 REM/hr at 12 inches. Additionally, no removal of items that would require a whole body entry into greater than or equal to 1,000 mRem/hr at 12 inches.
- RP Senior presence required for removal / replacement of Weir Gate from the SFP Transfer Canal .

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 2 - WEIR GATE WORK

RADIOLOGICAL SURVEILLANCE

- Removal of items greater than or equal to 1,000 mRem/hr at 12 inches requires RPL authorization.
- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Closely monitor items being removed from SFP.
- Inform workers to be aware when handling equipment with high dose rates near RU-Monitors.
- Perform airborne surveys for tritium when working over SFP as necessary.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm²
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL
- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 3 - REMOVAL (FOSAR) OF ITEMS FROM REFUEL / SPENT FUEL STORAGE POOLS.

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Half set PCs may be worn for a CA entry in the Fuel Building as authorized by RP.
- RP may relax outer protective clothing requirements for wet work associated with installing / removing equipment from the SFP / Transfer Canal or RFP.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by RP prior to each entry.
- Notify RP prior to removal of any items from the SFP, RFP
- RPL authorization required for removing items from the SFP when Fuel Building normal ventilation is out of service.

PREREQUISITES

- Set up contamination control laydown area prior to removing items from the SFP/RFP Transfer Canal.
- Lead blankets should be staged inside Zone III prior to removing material from SFP Transfer Canal. Adhere to appropriate procedures for floor loading and transient combustibles.
- Notify Operations of the quantity of water to be added to SFP/RFP prior to starting any rinsing evolution.
- Underwater survey of unknown items required prior to removal from the SFP/RFP Transfer Canal.
- Notify RMS Technician to evaluate RU monitor set points prior to removing any items from SFP / RFP.

ALARA / ENGINEERING CONTROLS

- Rinse or wipe down items removed from the SFP/RFP . Items removed from the SFP/RFP shall be treated as highly contaminated and hot particle material until surveys indicate otherwise.
- Shield items removed from SFP/RFP as directed by RP.
- Stand by in low dose "Cold Area" when not actively involved in job.

RADIOLOGICAL HOLD POINTS

- No removal of items greater than or equal to 5 REM/hr at 12 inches.
- No removal of items greater than or equal to 3 REM/hr on contact under water

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 3 - REMOVAL (FOSAR) OF ITEMS FROM REFUEL / SPENT FUEL STORAGE POOLS.

RADIOLOGICAL SURVEILLANCE

- LHRA entry requires RPL notification.
- Entries greater than or equal to 1,000 mREM/hr at 12 inches require RPL authorization.
- Removal of items greater than or equal to 1,000 mRem/hr at 12 inches requires RPL authorization.
- Closely monitor items being removed from SFP/ RFP
- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Perform airborne surveys for tritium when working over RFP / SFP as necessary.
- Closely monitor rags used for wiping items as they are removed from the SFP / RFP orTransfer Canals.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm²
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL
- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 4 - NON HRA WORK AROUND THE SFP/ RFP

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by RP prior to each entry.

PREREQUISITES

- Set up contamination control laydown area prior to working on items from the SFP / RFP.

ALARA / ENGINEERING CONTROLS

- Stand by in low dose "Cold Area" when not actively involved in job.
- Wipe down or change outer gloves frequently.

RADIOLOGICAL HOLD POINTS

- No HRA Entry.
- No handling of items greater than 100 mRem/hr at 12 inches.
- No removal of items from the SFP / RFP .

RADIOLOGICAL SURVEILLANCE

- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Perform airborne surveys for tritium when working around SFP / RFP as necessary.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm^2
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 4 - NON HRA WORK AROUND THE SFP/ RFP

RADIOLOGICAL SURVEILLANCE

- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 5 - FUEL DISASSEMBLY / REASSEMBLY FOR RECONSTITUTION AND DIAGNOSTIC INSPECTIONS

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Half set PCs may be worn for a CA entry in the Fuel Building as authorized by RP.
- RP may relax outer protective clothing requirements for wet work associated with installing / removing equipment from the SFP or Transfer Canal.
- Observe attached Addendum 'A' contingency action plan for indication of broken fuel rod during inspection process.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by an RP technician prior to each entry.
- Notify RP tech prior to commencing any work / inspections on 'failed fuel' rods.
- RPL authorization required for handling fuel or removing items from the SFP when Fuel Building normal ventilation is out of service.
- Notify RPL upon indication of cladding damage or loss of fuel rod integrity.
- Notify RP prior to removal of any items from the SFP
- Notify RP prior to moving spent fuel near any weir gate (reference 72DP-9NF01).

PREREQUISITES

- Ensure either the Transfer Canal or Cask Loading Pit is filled with water when fuel bundle measurements are performed in these areas.
- Verify fuel building normal ventilation is in service and set up contamination control laydown area prior to fuel handling or removing items from the SFP Transfer Canal.
- Area radiation monitor (EC-4 or equivalent) is set-up and operable on the Spent Fuel Handling Bridge prior to handing fuel for reconstitution, setpoints per RPL (verify operability daily).
- Continuous Air Monitor (CAM) operating at job site during all fuel handling, setpoints per RPL (verify operability daily).
- Lead blankets should be staged inside Zone III prior to removing material from SFP Transfer Canal. Adhere to appropriate procedures for floor loading and transient combustibles.
- Notify Operations of the quantity of water to be added to SFP prior to starting any rinsing evolution.
- Notify RMS Technician to evaluate RU monitor set points prior to removing any items from SFP.

ALARA / ENGINEERING CONTROLS

- Capture tube or similar containment device to be employed while working with 'failed' or suspect fuel rods.
- Rinse and wipe down items removed from the SFP or Transfer Canal. Items removed from the SFP orTransfer Canal shall be treated as highly contaminated and hot particle material until surveys indicate otherwise.

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 5 - FUEL DISASSEMBLY / REASSEMBLY FOR RECONSTITUTION AND DIAGNOSTIC INSPECTIONS

ALARA / ENGINEERING CONTROLS

- Shield items removed from SFP or Transfer Canal as directed by RP.
- Stand by in low dose "Cold Area" when not actively involved in job.

RADIOLOGICAL HOLD POINTS

- When area Radiation Monitor alarms during fuel handling, immediately place refueling equipment in a safe position and exit. RP to notify workers in area and control access.
- No removal of items greater than or equal to 5 REM/hr at 12 inches.

RADIOLOGICAL SURVEILLANCE

- LHRA entry requires RPL notification.
- Entries greater than or equal to 1,000 mREM/hr at 12 inches require RPL authorization.
- Removal of items greater than or equal to 1,000 mRem/hr at 12 inches requires RPL authorization.
- Obtain particulate and iodine air samples during all spent fuel handling.
- Obtain gas grab sample in workers breathing zone immediately upon indication of fuel rod breakage.
- Closely monitor items being removed from SFP or Cask Loading Pit.
- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Restrict access to the Decon Pit and verfiy boundaries are adequate when the Cask Loading Pit is used to perform fuel measurements.
- Perform airborne surveys for tritium when working over SFP as necessary.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- RPL authorization required for performing non-standard fuel handling outside of the normal fuel reconstitution process.
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL
- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm²

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 6 - REMOVAL OF FUEL UT / RECONSTITUTION EQUIPMENT FROM SFP AT CONCLUSION OF JOB.

SPECIAL INSTRUCTIONS

- Contact RP prior to each RCA entry.
- EPD setpoints may be adjusted as determined prudent by RPL based on review of work plan and radiological conditions. RPL to document all setpoint adjustments in RP electronic log.
- Half set P.C.s may be worn for a CA entry as authorized by RP.
- RP may relax outer protective clothing requirements for wet work associated with installing / removing equipment from the SFP or Transfer Canal.
- Personnel may enter a HCA / HPCA wearing a modified Double Set (consisting of a Full Set with outer shoe covers and gloves) to perform minor tasks with low probability of personnel contamination as determined and authorized by an RP technician prior to each entry.
- Notify RP prior to removal of any items from the SFP
- RPL authorization required for removing items from the SFP when Fuel Building normal ventilation is out of service.

PREREQUISITES

- Verify Fuel building ventilation is in service and set up contamination control laydown area prior to removing items from the SFP Transfer Canal.
- Lead blankets should be staged inside Zone III prior to removing material from SFP Transfer Canal. Adhere to appropriate procedures for floor loading and transient combustibles.
- Notify Operations of the quantity of water to be added to SFP prior to starting any rinsing evolution.
- Notify RMS Technician to evaluate RU monitor set points prior to removing any items from SFP.

ALARA / ENGINEERING CONTROLS

- Rinse and wipe down items removed from the SFP or Transfer Canal. Items removed from the SFP orTransfer Canal shall be treated as highly contaminated and hot particle material until surveys indicate otherwise.
- Shield items removed from SFP or Transfer Canal as directed by RP.
- Stand by in low dose "Cold Area" when not actively involved in job.

RADIOLOGICAL HOLD POINTS

- No removal of items greater than or equal to 5 REM/hr at 12 inches.

RADIOLOGICAL SURVEILLANCE

- LHRA entry requires RPL notification.
- Entries greater than or equal to 1,000 mREM/hr at 12 inches require RPL authorization.

Job Description: REFUELING AND ASSOCIATED WORK

TASK NUMBER: 6 - REMOVAL OF FUEL UT / RECONSTITUTION EQUIPMENT FROM SFP AT CONCLUSION OF JOB.

RADIOLOGICAL SURVEILLANCE

- Removal of items greater than or equal to 1,000 mRem/hr at 12 inches requires RPL authorization.
- Closely monitor items being removed from SFP
- If normal ventilation is secured, increase contamination monitoring throughout the Fuel Building (e.g. increased local airborne radioactivity, and spread of contamination).
- Inform workers to be aware when handling equipment with high dose rates near RU-Monitors.
- Perform airborne surveys for tritium when working over SFP as necessary.
- RP Technicians entering an HPCA / HCA to perform RP monitoring tasks with low probability of personnel contamination may wear a modified Double Set consisting of a Full Set with outer shoe covers and gloves.
- A job specific TEDE ALARA screening is required for surface destruction activities where contamination levels exceed 10,000 dpm/100 cm²
- For work that does not involve surface destroying activities, where loose contamination levels are >500,000 dpm Beta-Gamma/100 Sq. cm or >500 dpm Alpha /100 Sq. cm, thoroughly wet contaminated surfaces or components and maintain damp when personnel are present. Alternate engineered airborne contamination controls may be implemented as detailed on TEDE ALARA Screening and authorized by RPL
- If the contaminated surface is maintained wet/damp and loose contamination levels exceed 10 mrem/hr per 100cm² (gamma) or 50,000 dpm/100cm² (alpha), a job specific TEDE ALARA screening and RPL authorization is required

Radiation Exposure Permit

3 - 3022 F

Job Description: REFUELING AND ASSOCIATED WORK

REP expires on 11/30/2004 @ 23:59

Estimated Man-Hours : 3,500.00

Estimated Man-REM : 0.850

JHES Category:	2	ALARA Review Required:	Yes
Reg Guide 1.16 Category:	Routine Maintenance	Job Recipe Available:	Yes
Rep Type:	Job		

REP APPROVALS

REP prepared on : 9/23/2004 @ 10:28 , by GEORGIA BEASLEY

ALARA Review on : 9/23/2004 @ 17:10 , by BRADLEY KRECHEL

REP approved on : 9/28/2004 @ 14:25 , by WILLIAM SNEED III (RP Section Leader)

REP TERMINATION

REASON:

REP terminated on : , by

2004 LSROI NRC EXAM
A3
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1240100202 Classify events requiring emergency plan implementation
TASK STANDARD: Classify the event and determine the appropriate PAR
K/A: 2.4.29 K/A RATING: RO: 2.6 SRO: 4

APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 15 min
REFERENCES: Emergency Plan Implementing Procedure, EPIP-01
EPIP Standard Appendices, EPIP-99, Appendix A
SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: J. M. Ledford TECH REVIEW: _____
REVISION DATE: 09/30/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]
TESTING METHOD: SIMULATE [ ] PERFORM [X]

EVALUATION

EXAMINEE NAME: _____ (print)
EVALUATOR NAME: _____ (print)
Date _____
GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
A3
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Ensure current copy of EPIP-01 is available with EPIP-99, Standard Appendices, Appendix A

2004 LSROI NRC EXAM
A3
PVNGS JOB PERFORMANCE MEASURE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Given the following plant conditions:

- **A spent fuel assembly has been damaged in the Fuel Building**
- **RU-145 ch-1, the fuel building monitor, has been reading 2 E-2 µCi/cc for a little over an hour. Given the EPlan procedures, EPIP-01 & EPIP-99:**
  1. **Determine the appropriate Emergency Action Level for this event .**
  2. **Classify the event.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.

2004 LSROI NRC EXAM
A3
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1.	Obtain Procedure EPIP-01, STSC Actions		EPIP-01 obtained
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Evaluate the fission product barrier thresholds and the event based EALs in EPIP-99 Standard Appendix A - Emergency Action Levels for each emergency classification and determine the most accurate EAL which is currently being met or exceeded.		Enters EPIP-99 Standard Appendix A, and identifies EAL **[3-2]**
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
3. *	Declare the emergency classification appropriate to the EAL.		Declares an Unusual Event.
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: _____

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
A3
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	9/30/04	6	New JPM

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIATING CUE:

Given the following plant conditions:

- **A spent fuel assembly has been damaged in the Fuel Building**
- **RU-145 ch-1, the fuel building monitor, has been reading 2 E-2 µCi/cc for a little over an hour. Given the EPlan procedures, EPIP-01 & EPIP-99:**
    1. **Determine the appropriate Emergency Action Level for this event .**
    2. **Classify the event.**

CANDIDATE

2004 LSROI NRC EXAM
B1
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1300040403 Direct Operations of the Spent Fuel Handling Machine
TASK STANDARD: Lift/Lower a component using the New Fuel Elevator
K/A: 2.2.27 K/A RATING: RO: SRO: 3.5
K/A: K/A RATING: RO: SRO:
APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 20 min
REFERENCES: 78OP-9FX03, Spent Fuel Handling Machine
SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: L. Wilhelm TECH REVIEW: _____
REVISION DATE: 07/08/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]
TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____
(print)
EVALUATOR NAME: _____
(print)
Date _____
GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
B1
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- None

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Given the following conditions:

- **A new experimental fuel assembly has been placed in the New Fuel Elevator by the previous shift.**
- **Reactor Engineering personnel have requested this fuel assembly be lifted using the New Fuel Elevator for inspection.**
- **Your task is to assist Reactor Engineering using the steps of 78OP-9FX03, Spent Fuel Handling procedure.**
- **All pre-requisites and pre-operational checks for the New Fuel Elevator and Spent Fuel Handling Machine have been completed.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.

2004 LSROI NRC EXAM
B1
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1.	Obtain copy of 78OP-9FX03, Spent Fuel Handling Machine		Examinee obtains copy of 78OP-9FX03, Spent Fuel Handling Machine and goes to step 6.3.3, Lifting a component with the New Fuel Elevator.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Obtain the New Fuel Elevator bypass key from the Shift Manager.	**WHEN requested CUE: You have obtained the New Fuel Elevator bypass key.**	Examinee makes effort to obtain the New Fuel Elevator bypass key from the Shift Manager.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
3. *	Contact Reactor Engineering or Refueling Team Leader \ Designated Alternate before raising the new fuel elevator for their concurrence.	**WHEN requested CUE: The Refueling Team Leader has been informed and concurs with the proposed New Fuel Elevator Operations.**	Examinee makes effort to contact Reactor Engineering or Team Leader prior operating the New Fuel Elevator.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
4. *	Ensure an RP Tech is present to monitor general area radiation.	**WHEN requested CUE: A Radiation Protection Technician is standing by and is continuously monitoring the area radiation.**	Examinee makes effort to contact RP for continuous radiation monitoring.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
5. *	Ensure the SFHM bridge and trolley are clear of the transfer canal.	**INFORM CUE: The bridge and trolley are clear of the transfer canal. Another operator is standing by at panel PCN-D04 with the New Fuel Elevator Bypass key.**	Examinee demonstrates basic process of how to move bridge trolley clear of the transfer canal.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
6. *	Hold the key operated bypass switch on PCN-D04 to ON.	**WHEN requested CUE: An Operator is holding the keyswitch on Panel PCN-D04 to the ON position.**	Examinee directs the operator to hold the key operated bypass switch to "ON" **NOTE:** This will bypass the "Elevator Lockout," thus enabling the new fuel elevator with a load to be raised.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
7. *	Push the "RAISE" pushbutton on the SFHM control panel to raise the fuel assembly.	**IF requested CUE: The fuel assembly is rising.** **INFORM CUE: The RP Tech informs you that the general area Radiation levels are increasing dramatically.**	Examinee simulates pushing the "RAISE" pushbutton.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
8. *	Depress the "STOP" pushbutton.	**IF requested CUE: The fuel assembly has stopped rising.**	Examinee simulates depressing the "STOP" pushbutton.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
9. *	Depress the "LOWER" pushbutton.	**IF requested CUE: The fuel assembly is lowering in the New Fuel Elevator.**	Examinee simulates depressing the "LOWER" pushbutton.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
10.	Contact the CRS/SM and determine the cause for the increase in radiation.	**WHEN requested CUE: The Shift Manager has been informed and efforts are being made to determine the cause of the high radiation.**	Examinee makes effort to contact the CRS or SM and inform him of the radiation increase.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
11. *	Monitor the elevator until it stops automatically.	**INFORM CUE: The fuel assembly has been lowered completely and the elevator has stopped automatically. RP reports that general area radiation levels are decreasing.**	Examinee continues to monitor fuel assembly lowering.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
12.	Release the key operated bypass switch and remove the key	**WHEN requested CUE: The other operator has released the key operated bypass switch and then removed the key.** **INFORM CUE: Reactor Engineering and the Refueling Team Leader have decided to leave the fuel assembly in the New Fuel Elevator until the reason for the elevated radiation levels is determined.**	Examinee directs the operator to release the key operated bypass switch ensuring it spring returns to the OFF position and remove the key.
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: _____

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
B1
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
000	07/08/04	6	New format

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIATING CUE:

Given the following conditions:

- **A new experimental fuel assembly has been placed in the New Fuel Elevator by the previous shift.**
- **Reactor Engineering personnel have requested this fuel assembly be lifted using the New Fuel Elevator for inspection.**
- **Your task is to assist Reactor Engineering using the steps of 78OP-9FX03, Spent Fuel Handling procedure.**
- **All pre-requisites and pre-operational checks for the New Fuel Elevator and Spent Fuel Handling Machine have been completed.**

CANDIDATE

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1290190103 Identify Non Compliance With Technical Specifications
1300020401 Direct Refueling Machine Operations

TASK STANDARD: Perform contingencies for a Refueling Machine overload interlock failure

K/A: 38034A101 K/A RATING: RO: SRO: 3.2

K/A:

APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 15 min

REFERENCES: 78ST-9FH01 Refueling Machine Load Test, Technical Specifications

SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: Jim Ledford TECH REVIEW: _____

REVISION DATE: 10-05-04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]

TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

Date _____

GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None.

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Procedure 78ST-9FH01 Refueling Machine Load Test
- Technical Specifications

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **Your task is to perform a Refueling Machine overload interlock verification, step 8.2 of 78ST-9FH01 Refueling Machine Load Test.**
- **All perquisites have been met.**
- **The PAR Load Simulator is installed.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.
- No attempt will be made to actually operate any valves.
- It is preferred that this JPM be performed at the RP Island in preparation to performing an in plant/inside the RCA JPM

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1.*	Turn on the PAR load simulator and set the load meter reading to 1000 pounds.	**The load meter reading is set to 1000 pounds.**	The examinee simulates turning on the PAR load simulator and setting the load meter reading to 1000 pounds.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Slowly raise the hoist by placing the Hoist Motor Control lever to the "Up" position.	**The Hoist is rising slowly.**	The examinee simulates slowly raising the hoist by placing the Hoist Motor Control lever to the "Up" position.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
3. *	Increase the fuel load meter reading using the load simulator until the "Fuel Hoist-Overload" light comes on.	**The "Fuel Hoist-Overload" light is on.**	Increases the fuel load meter reading using the load simulator until the "Fuel Hoist-Overload" light comes on.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
4. *	Verify Hoisting automatically stops.	**Hoisting stops at 1700 pounds.**	Verifies Hoisting automatically stops.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
5. *	Refer to section 10.0 Contingencies and TLCO 3.9.102 of the Technical Requirements Manual.		Immediately suspend use of the Refueling Machine from operations involving the movement of fuel assemblies.
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: _____

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	10/5/04	6	New Format

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

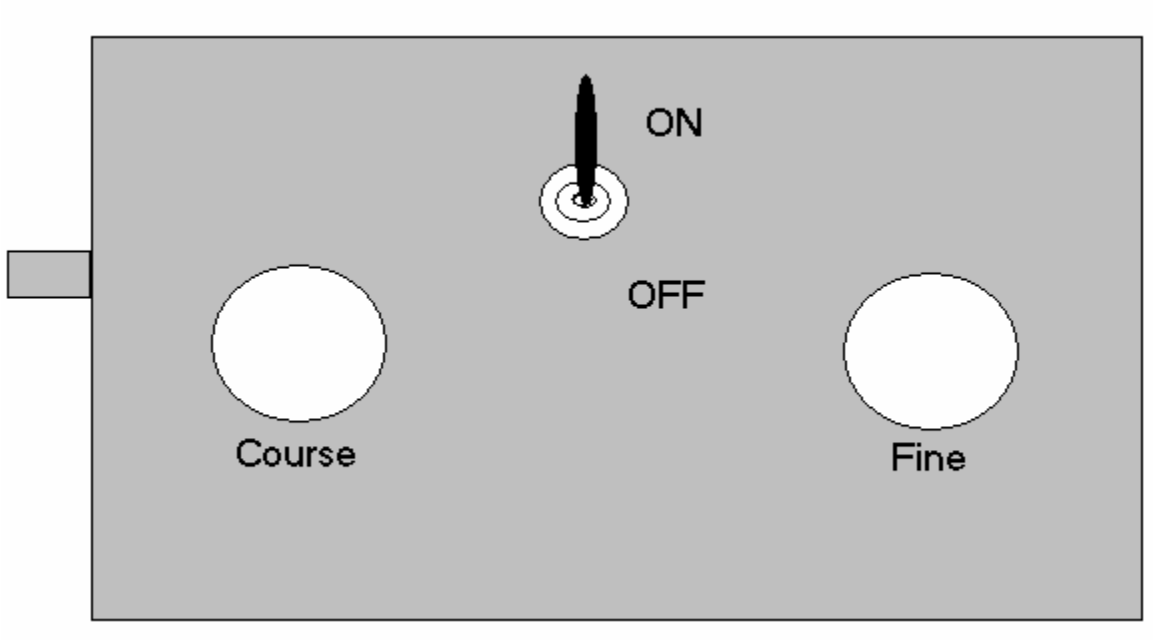
1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

2004 LSROI NRC EXAM
B2
PVNGS JOB PERFORMANCE MEASURE

INITIATING CUE:

- **Your task is to perform a Refueling Machine overload interlock verification, step 8.2 of 78ST-9FH01 Refueling Machine Load Test.**
- **All perquisites have been met.**
- **The PAR Load Simulator is installed.**

CANDIDATE



CANDIDATE

2004 LSROI NRC EXAM
B3
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1180010401 Operate the radiation monitoring system
TASK STANDARD: Verify SFHM bridge ARM alarm function is operable
K/A: 37072A201 K/A RATING: RO: SRO: 2.9
K/A: K/A RATING: RO: SRO:
APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 10 min
REFERENCES: Radiation Monitoring STM (SQ)
SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path	X	

APPROVAL

DEVELOPER: P. Capehart TECH REVIEW: _____
REVISION DATE: 10/5/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]
TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____ (print)
EVALUATOR NAME: _____ (print)
Date _____
GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
B3
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- None

D. REQUIRED CONDITIONS:

- None

E. SPECIAL TOOLS/EQUIPMENT:

- **EC-4 Response Check Guide**
- **EC-4 Front Cover picture**

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

Given the following conditions:

- **Fuel movement is in progress.**
- **You have just placed an irradiated fuel assembly into the Ultrasonic Machine in the Spent Fuel Pool for analysis.**
- **The UT machine operator informs you that they are temporarily on hold and have not started the UT process.**
- **RP has asked for your assistance in performing the daily EC-4 (SFHM Portable Area Radiation Monitor) operability check in accordance with the REP. The RP Tech informs you that the EC-4's calibration is set such that the audible and light alarms should both come in immediately after depressing the source check pushbutton.**
- **Given a copy of the EC-4 Radiation Protection Guide and a picture of the EC-4 front cover, perform a response check of the EC-4.**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.

2004 LSROI NRC EXAM
B3
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1. *	Depress and hold the "Source Check" pushbutton on the front of the portable ARM (EC-4)	**The ARM meter only slightly deflects upscale and the audible alarm does not sound. The red light at the top of the ARM does not activate.** **(NOTE: If asked, the specified response check range posted on the instrument calibration label is 100mR/hr, ± 50. The meter increased to ~2 mR/hr.)**	Examinee pushes the "ACT CHECK SOURCE" pushbutton on the front of the ARM.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Identifies the Response Check as UNSAT.	**The UT operator informs you that the fuel bundle can be removed from the UT scanner at this time.**	Informs the RP Tech the response check as being UNSAT.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
3. *	• Stops Fuel Movement		• Examinee STOPS fuel movement. (Both the REP and 78OP-9FX03, SFHM, inform the LSRO that fuel movement can NOT continue. The REP list this as a prerequisite for Fuel Movement. 78OP-9FX03 step 3.1.19 directs the LSRO to STOP fuel movement if an off normal situation occurs during fuel handling operations)
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
4.	• Contacts the CRS • Performs Appendix L – Event Recovery Checklist • Obtain approval from the CRS prior to recommencing the procedure	**The CRS has been contacted.**	78OP-9FX03 step 3.1.19 directs the LSRO to: • STOP fuel movement • Contact the CRS • Perform Event Recovery Checklist • Obtain approval of CRS prior to recommencing. **(Only the first item will be considered critical for this JPM)**
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: _____

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
B3
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
000	10/06/04	6	New JPM

REASON REVISED — Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

INITIATING CUE:

Given the following conditions:

- **Fuel movement is in progress.**
- **You have just placed an irradiated fuel assembly into the Ultrasonic Machine in the Spent Fuel Pool for analysis.**
- **The UT machine operator informs you that they are temporarily on hold and have not started the UT process.**
- **RP has asked for your assistance in performing the daily EC-4 (SFHM Portable Area Radiation Monitor) operability check in accordance with the REP. The RP Tech informs you that the EC-4's calibration is set such that the audible and light alarms should both come in immediately after depressing the source check pushbutton.**
- **Given a copy of the EC-4 Radiation Protection Guide and a picture of the EC-4 front cover, perform a response check of the EC-4.**

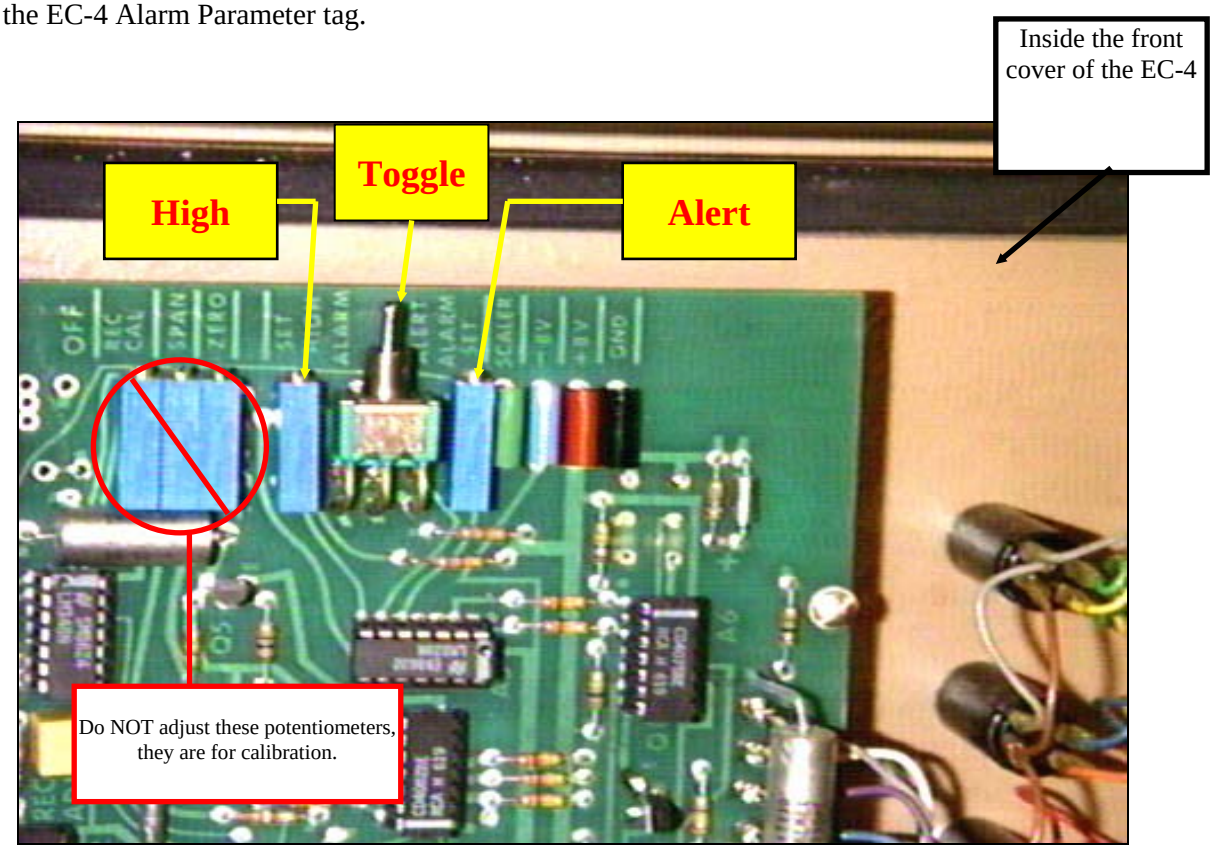
CANDIDATE

Setting EC-4 "High" and "Alert" alarm set-points:

1. Five blue potentiometers are installed on top of the circuit board inside the front cover of the EC-4 (refer to picture); the two potentiometers directly adjacent to the toggle switch (one on each side of switch) are the "High" and "Alert" alarm potentiometers (the potentiometers are labeled on the circuit board as "Set High Alarm" and "Alert Alarm Set").

2. Hold the toggle switch toward the appropriate potentiometer and adjust the potentiometer to the desired setting as indicated on the meter. When complete, release the toggle switch; the switch should return to the "centered" position.

3. Update the EC-4 Alarm Parameter tag.



Response check of EC-4:

CANDIDATE

Note

When response checking the instrument, check to see that the alert and high alarms are set in accordance with the alarm parameter tag.

1. Depress and hold the "Source Check" button. The meter reading should indicate a value between the range specified on the instrument calibration label. Release the "Source Check" button upon completion of the response check. If the alarm set-points are below or within the specified response check range, verify that the appropriate alarms are received when performing response check.

2. If the meter reading is within the specified range, the response check is satisfactory. Initial the Instrument Response Check Record and Instrument Response Check Log. If the meter reading is NOT within the specified range, the response check is UNSATISFACTORY; remove the instrument from service and tag out-of-service


FEDERAL
CAUTION:
RADIOACTIVE MATERIAL
ALARMS
PORTABLE AREA MON'ITOR
HIGH
RESET
ALERT
RESET
NORMAL
ACY CHECK
SOURCE
ACKNOWLEDGE
eberline
CANDIDATE

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

JPM BASIS INFORMATION

TASK: 1290020301 Conduct of Shift Operations

TASK STANDARD: Demonstrate P&ID flowpath for BAMP Makeup to the SFP

K/A: 2.1.5 K/A RATING: RO: SRO: 3.4

APPLICABLE POSITION(S): Refueling SRO VALIDATION TIME: 20 min

REFERENCES: 01-M-CHP-002, CVCS P&ID

SUGGESTED TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [X]

JPM TYPE

	YES	NO
Time Critical		X
Alternative Path		X

APPROVAL

DEVELOPER: Phillip Capehart TECH REVIEW: _____

REVISION DATE: 10/7/04 APPROVAL: _____

TESTING METHOD

ACTUAL TESTING ENVIRONMENT: SIMULATOR [ ] PLANT [ ]

TESTING METHOD: SIMULATE [ ] PERFORM [ ]

EVALUATION

EXAMINEE NAME: _____
(print)

EVALUATOR NAME: _____
(print)

Date _____

GRADE *(Check One)* SAT [ ] UNSAT [ ]

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

1. SIMULATOR SETUP:

A. IC#:

B. MALFUNCTIONS, OVERRIDES & REMOTE FUNCTIONS:

EVENT	COMMAND	DESCRIPTION
1.	N/A	
2.	N/A	
3.	N/A	
4.	N/A	

C. SPECIAL INSTRUCTIONS:

- Ensure that a copy of CVCS P+ID is available.
- Ensure that a copy of 40AO-9ZZ23, Loss of SFP Level or Cooling, is available

D. REQUIRED CONDITIONS:

- None

2. SPECIAL TOOLS/EQUIPMENT:

- Blank copy of CVCS P+ID, 01-M-CHP-002 (Sheet 1 of 2, Frame 2 of 2)
- Blank copy of 40AO-9ZZ23, Loss of SFP level or cooling

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

TASK CONDITIONS

INFORMATION PRESENTED TO EXAMINEE:

SPECIAL CONSIDERATIONS:

IN PLANT JPM's ONLY

- Operation of in-plant equipment is to be **SIMULATED ONLY, DO NOT OPERATE** any equipment.
- Inform the control room staff of any discovered deficiencies.
- Comply with the REP, if it is not possible to enter an area it may be permissible to discuss the equipment to be operated. Do not enter contaminated, airborne, or high radiation areas.

ALL JPM's

- You may use any source of information normally available.

INITIATING CUE:

- **You are the Refueling SRO**
- **Spent Fuel Pool Level has been slowly lowering over the past two shifts**
- **The CRS orders Makeup to the SFP via the "BAMP"**
- **Given the CVCS Print, trace the Makeup flowpath from the RWT via the BAMP to the Spent Fuel Pool using P+ID's**

INFORMATION FOR EVALUATOR'S USE:

* Denotes Critical Step

- At the discretion of the Examiner/Evaluator, this JPM may be terminated when the Task Standard is met or adequate time has been allowed to complete the JPM. It shall be terminated when the Examinee has verbalized completion of the JPM.
- Any step marked UNSAT requires comments.
- If this is the first JPM of the set then ensure the examinee has been briefed.
- Step sequence is not critical unless noted or will prevent achieving the task standard.
- Notify unit Shift Manager of in-plant JPM performance.
- Performance of this JPM will require entry into areas with alarmed doors. Security requirements must be observed.

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

JPM START TIME: _____

	STEP	CUE	STANDARD
1.	Operator may obtain 40AO-9ZZ23, Loss of SFP level or cooling		Obtains 40AO-9ZZ23, Loss of SFP level or cooling and goes to Appendix A for guidance on the valve lineup. This appendix may be acquired directly via the index or via Section 3.0 step 6. NOTE: This procedure does not need to be referenced to complete the JPM successfully. The candidate may go directly to the print and demonstrate knowledge of the flow path w/o use of the procedure.
SAT / UNSAT **Comments (required for UNSAT):**			

	STEP	CUE	STANDARD
2. *	Identifies flow path from the RWT to the SFP via the BAMP Pumps.		Operator traces the path from the RWT to the suction of the "BAMP" Pumps, from the discharge of the BAMP pumps to the SFP via PCN-V215.
SAT / UNSAT **Comments (required for UNSAT):**			

JPM STOP TIME: _____

NORMAL TERMINATION POINT

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

RECORD OF REVISIONS

REVISION NUMBER	REVISION DATE	REASON REVISED	COMMENTS
0	10/07/04	6	New Format

REASON REVISED Enter the numbers corresponding to the reason revised in the Reason Revised column and brief description of changes in Comments Column. Comments are to be numbered consecutively in each revision.

1. Vendor reference document upgrade
2. Plant modification (include number)
3. Procedure upgrade
4. Internal or External Agency Commitment (indicate item number)
5. Technical Specification Change (indicate amendment number)
6. Other (explain in comments)

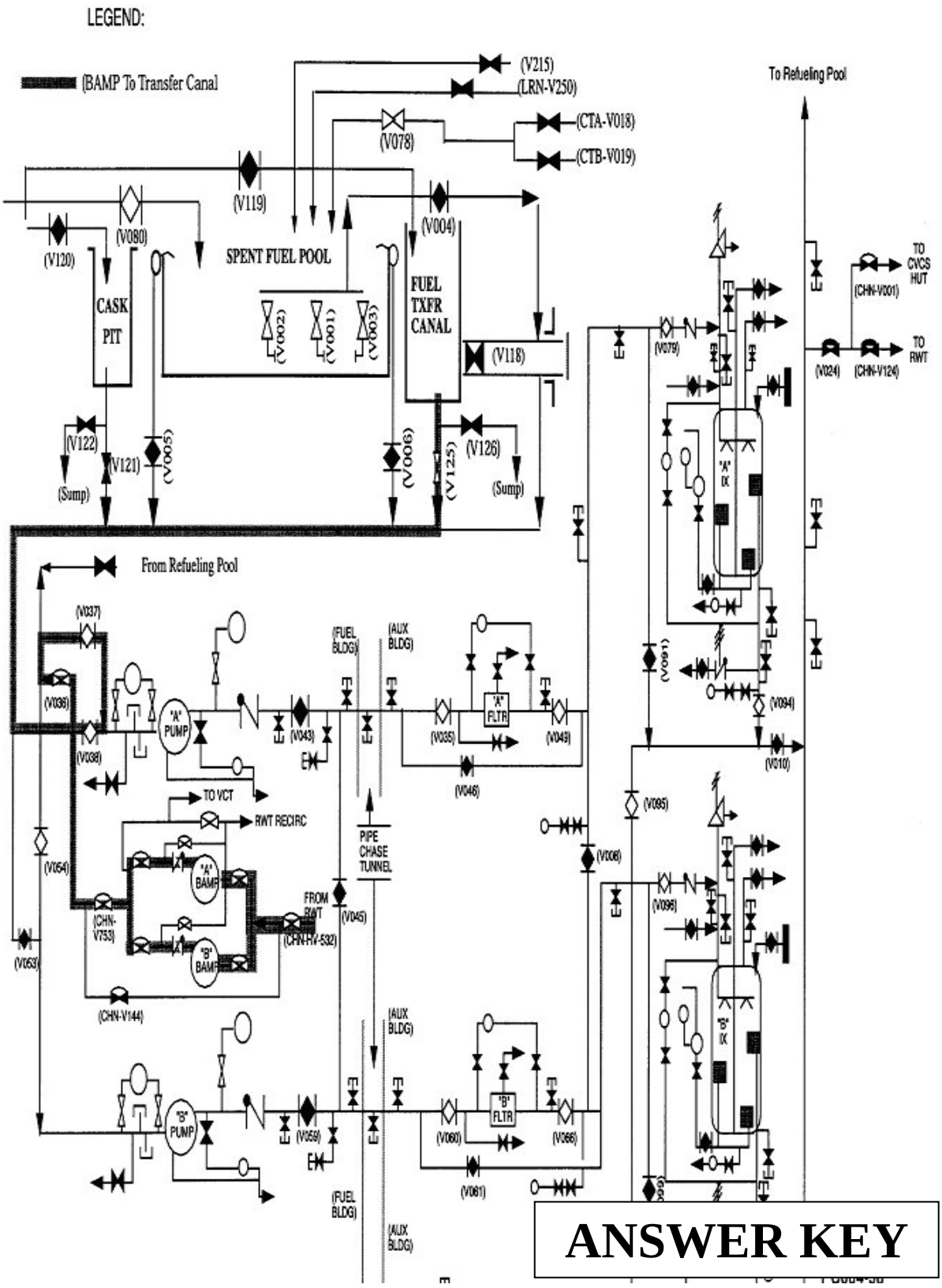
2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE

INITIATING CUE:

- **You are the Refueling SRO**
- **Spent Fuel Pool Level has been slowly lowering over the past two shifts**
- **The CRS orders Makeup to the SFP via the "BAMP"**
- **Given the CVCS Print, trace the Makeup flowpath from the RWT via the BAMP to the Spent Fuel Pool using P+ID's**

CANDIDATE

2004 LSROI NRC EXAM
B4
PVNGS JOB PERFORMANCE MEASURE



ANSWER KEY