Rev	2
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ES-301	1	Administrative Topics Outline	Form ES-301-1
Facili	ty: Limerick Generatin	g Station	Date of Examination: 10/07/02
Exam	ination Level SRO		Operating Test Number:
	Administrative Topic/Subject Description	Describe method of evaluation: 1. ONE Administrative JPM, OR 2. TWO Administrative Questions	
A.1	Process computer	2.1.19 (3.0) Ability to use plant con parametric information on system JPM: Evaluate jet pump operability	nputer to obtain and evaluate or component status /
	License Maintenance	2.1.1 (3.8) Knowledge of conduct of JPM: Determine status of license f	of operation requirements
A.2	Safety Systems Status	2.2.10 (3.3) Knowledge of the proc change, test, or experiment increa consequences of an accident durin JPM: Determine required compens ONLY)	cess for determining the proposed ses the probability of occurrence or ng the change, test, or experiment satory actions for barrier breach (SRO
A.3	Release Controls	2.3.3 (2.9) Knowledge of SRO resp are outside the control room JPM: Determine compensatory act to a planned liquid release (SRO C	consibilities for auxiliary systems that tions for a failed radiation monitor prior PNLY)
A.4	Emergency Plan	2.4.41 (4.1) Knowledge of emerger classifications JPM: Evaluate plant conditions and	ncy action level thresholds and I determine EAL (SRO ONLY)

ES-301 Control Room Systems and Facility Walk-Through Test Outline Form ES-301-2

Facility: Limerick Generating Station Exam Level: SRO(I)

Date of Examination: 10/07/02
Operating Test No.:

B.1 (Control Room Systems				
	System / JPM Title	Type Code*	Safety Function		
a.	Manual Depressurization of RHR (Alternate Path – Drain Valve trips on thermals)	NAS	2		
b.	Operate RCIC Full Flow test CST to CST (Alternate Path – Test valve pressure locks)	NAS	4		
C.	Venting Primary Containment (OT-101) (Alternate Path – High Rad alarm annunciates)	NAS	5		
d.	Control Rod Exercise Test (ST-6-107-760-*)(Alternate Path – Rod stuck)	NAS	1		
e.	Shutdown D14 Diesel Generator	MS	6		
f.	Bypass Isolations and Restore RECW (ON-113)	DS	8		
g.	Establish Main Condenser Vacuum Using the 2 nd Stage SJAE	NSL	9		
B.2 F	Facility Walk-Through				
a.	Install SLC Squib Valve Bypass Line	DR	1		
b.	Defeat HPCI and RCIC High Temperature Isolation	DR	4		
C.	Supply Emergency DIV 1 Power to RCIC Inboard Isolation Valve	DR	6		
* Typ (S)im	* Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, (S)imulator, (L)ow-Power, (R)CA				

Rev. 1

ES-301 Control Room Systems and Facility Walk-Through Test Outline Form ES-301-2

Fac	Facility: Limerick Generating Station Date of Examination: 10/07/02				
Exa	Exam Level: SRO(U) Operating		g Test No.:		
B.1 (Control Room Systems				
	System / JPM Title	Type Code*	Safety Function		
a.	Operate RCIC Full Flow test CST to CST (Alternate Pat valve pressure locks)	h – Test NAS	4		
b.	Venting Primary Containment (OT-101) (Alternate Path alarm annunciates)	– High Rad NAS	5		
C.	Establish Main Condenser Vacuum Using the 2 nd Stage	SJAE NSL	9		
d.					
е.					
f.					
g.					
B.2 F	acility Walk-Through	- que la la como de la c			
a.	Install SLC Squib Valve Bypass Line	DR	1		
b.	Supply Emergency DIV 1 Power to RCIC Inboard Isolati	on Valve DR	6		
C.	· · · · · · · · · · · · · · · · · · ·				
^r Type Codes: (D)irect from bank, (M)odified from bank, (N)ew, (A)lternate path, (C)ontrol room, S)imulator, (L)ow-Power, (R)CA					

NUREG-1021, Revision 8

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TITLE: DETERMINE STATUS OF LICEN	ISE FROM WORKING HOUR RECORDS
TASK PERFORMED BY:	EVALUATOR:
EVALUATOR SIGNATURE:	DATE:
DIRECTIONS TO EVALUATOR:	
None	
EVALUATION METHOD:	
PERFORM	
EVALUATION LOCATION:	
ANY	
APPROXIMATE COMPLETION TIME:	
15 MINUTES	
IMPORTANCE RATING(S):	SYSTEM NUMBER(S):
3.7/3.8	2.1.1 Knowledge of conduct of operation requirements
REFERENCES:	
OP-AA-105-102 , NRC ACTIVE LIC	CENSE MAINTENANCE
TASK STANDARD(S):	
Determine that the license status is	s inactive due to insufficient hours stood

TASK CONDITIONS:

Date	Hours	Position
10/01	6	RO
10/19	12	RO
11/21	12	PRO
11/29	6	PRO
12/15	12	RO
12/17	4	PRO
12/31	12	RO

A reactor operator has stood the following shift schedule over the last three months:

INITIATING CUES:

Determine the status of the Reactor Operator's license and whether he may stand the watch as RO today, January 2nd.

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

STEP		STANDARD	SAT/UNSAT
(CUE)			
Provide copy of OP-AA-105-102 , NRC ACTIVE LICENSE MAINTENANCE			
1.	The quarterly shift watch requirement may be completed with a combination of complete 8 and 12 hour shifts	Determine that the dates with 6 and 4 hour watches do not count toward the minimum requirements	
*2.	Evaluate the watchstanding record for meeting the minimum number of 8 hour shifts	Determine that the required seven 8- hour watches were NOT stood	
*3	Evaluate the watchstanding record for meeting the minimum number of 12 hour shifts	Determine that the required five 12 hour watches were NOT stood	
*4	Determine the status of the license	Determine the license is inactive and the operator may NOT take shift.	<u> </u>
(CUE	: You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

<u>Comments</u>:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

A reactor operator has stood the following shift schedule over the last three months:

		· · · · · · · · · · · · · · · · · · ·
Date	<u>Hours</u>	Position
10/01	6	RO
10/19	12	RO
11/21	12	PRO
11/29	6	PRO
12/15	12	RO
12/17	4	PRO
12/31	12	RO

INITIATING CUES:

Determine the status of the Reactor Operator's license and whether he may stand the watch as RO today, January 2nd.

CANDIDATE

TITLE: PARTIAL PROCEDURE PREP	RATION
TASK PERFORMED BY:	EVALUATOR:
EVALUATOR SIGNATURE:	DATE:
DIRECTIONS TO EVALUATOR:	
 Provide copy of ST-6-001-7 Provide copy of A-3 or acce 	61-1 at the beginning of the JPM ss to A-3 once the cues have been given
EVALUATION METHOD :	
PERFORM	
EVALUATION LOCATION:	
ANY	
APPROXIMATE COMPLETION TIME:	
15 MINUTES	
IMPORTANCE RATING(S):	SYSTEM NUMBER(S):
2.5	2.2.11
REFERENCES:	
A-3, TEMPORARY CHANGES 1	O APPROVED PROCEDURES AND PARTIAL PROCEDURE USE
TASK STANDARD(S):	
Procedure steps for BPVs 1-8 m	arked out

TASK CONDITIONS:

- 1. Unit 1 is in OPCON 1
- 2. ST-6-001-761-1 is to be re-performed for the No. 9 Bypass Valve only
- 3. The reason for the performance of the ST is for post-maintenance testing
- 4. All other bypass valves are operable

INITIATING CUES:

The Control Room Supervisor has directed you to prepare ST-6-001-761-1, MAIN TURBINE BYPASS VALVE EXERCISING for partial execution on the No. 9 Bypass Valve up to the point where it is ready for SQR review.

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

STEP		STANDARD	SAT/UNSAT
(CUE): Provide copy of ST and copy of A-3 to candidate		· · · · · · · · · · · · · · · · · · ·	
*1. T t	he preparer shali enter "PARTIAL" on he first page	"PARTIAL" entered on the cover sheet	
*2.	Preparer shall mark out unnecessary steps, sections or pages	Step 4.3.3 BPV 1-8 marked out with lineouts or "X"	
3.	and initial and date each mark out	Initials and date entered next ot the marked out steps	
2.	Preparer shall mark out unnecessary steps, sections or pages	Attachment 1 (Restoration) BPV 1-8 marked out with lineouts or "X"	
3.	and initial and date each mark out	Initials and date entered next to the marked out steps	
4.	Preparer shall enter name, initials and date in the procedure comments section. (i.e. prepared by: name, initials, date)	Name, initials, and date entered in the comments section of the cover sheet	
(CUI	E: You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. Unit 1 is in OPCON 1
- 2. ST-6-001-761-1 is to be re-performed for the No. 9 Bypass Valve only
- 3. The reason for the performance of the ST is for post-maintenance testing
- 4. All other bypass valves are operable

INITIATING CUES:

The Control Room Supervisor has directed you to prepare ST-6-001-761-1, MAIN TURBINE BYPASS VALVE EXERCISING for partial execution on the No. 9 Bypass Valve up to the point where it is ready for SQR review.

CANDIDATE

TITLE: EVALUATE JET PUMP OPERABI	LITY
TASK PERFORMED BY:	EVALUATOR:
EVALUATOR SIGNATURE:	DATE:
DIRECTIONS TO EVALUATOR:	
Provide attached copies of blank s	ST and PMS screens at the beginning of the JPM
EVALUATION METHOD :	
PERFORM	
EVALUATION LOCATION:	
ANY	
APPROXIMATE COMPLETION TIME:	
15 MINUTES	
IMPORTANCE RATING(S):	SYSTEM NUMBER(S):
3.0/3.0	2.1.19
REFERENCES:	
ST-6-043-320-1, DAILY JET PUMP OPER OPERATION	ABILITY VERIFICATION FOR TWO RECIRCULATION LOOP

TASK STANDARD(S):

Determine that the surveillance is failed

TASK CONDITIONS:

- 1. The following were observed on Unit 1:
 - Unexplained drop in reactor power
 - Unexplained rise in core flow indication
- 2. ON-100 Jet Pump Failure has been entered
- 3. Permission to start ST-6-043-320-1 has been obtained

INITIATING CUES:

You are directed to perform ST-6-043-320-1 and report the results

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

STEP		STANDARD	SAT/UNSAT
Exa shot	miner provide PMS computer screen is and blank ST to candidate.		
Exa	niner refer to marked-up ST key.		
*1.	Determine if Loop A flow is within 10% of the loop flow values on the established pump speed-loop flow characteristics curve	Determine that loop "A" is not within the limits	
2.	Determine if Loop B flow is within 10% of the loop flow values on the established pump speed-loop flow characteristics curve	Determine that Loop "B" is within the limits	
*3.	Determine if the value of total core flow is within 10% of the established Total Core Flow value derived from Recirc Loop Flow Measurements	Determine that total core flow is not within the limits	
*4.	Determine if Loop A jet pump diffuser- to-lower plenum differential pressure is within 10% of the established patterns	Determine that some jet pumps on Loop "A" are not within the limits	
5.	Determine if Loop B jet pump diffuser- to-lower plenum differential pressure is within 10% of the established patterns	Determine that all jet pumps on Loop "B" are within the limits	

	STEP	STANDARD	SAT/UNSAT
*6	Verify at least two of the step combinations in the surveillance are satisfactory:	Determine that three areas are unsatisfactory and the ST results are Unsatisfactory	
4.3.1.3 flow)	and 4.3.2.3 (Pump speed vs drive	Report the unsatisfactory results	
4.3.3.4	(Total loop flow vs total core flow)		
4.3.4.4 Flow)	. and 4.3.5.4 (Indiv JP DP vs Drive		
CUE:	(You may stop here. You have reached the termination criteria for this JPM)		

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. The following were observed on Unit 1:
 - Unexplained drop in reactor power
 - Unexplained rise in core flow indication
- 2. ON-100 Jet Pump Failure has been entered
- 3. Permission to start ST-6-043-320-1 has been obtained

INITIATING CUES:

You are directed to perform ST-6-043-320-1 and report the results

CANDIDATE

Group Number: 3 Group Name: RECIRC Group Status: ACTIVE Point ID Description Status Current Engineering Value Low High Plot Limit 1 B037 (19) A RECIRC PMP A1 (DRIVE) FLOW NRL 17.063 MLB/H 0.000 20.00 2 B038 (20) A RECIRC PMP A2 (DRIVE) FLOW NRL 17.063 MLB/H 0.000 20.00 3 B039 (21) B RECIRC PMP B2 (DRIVE) FLOW NRL 13.688 MLB/H 0.000 20.00 4 B040 (22) B RECIRC PMP B2 (DRIVE) FLOW NRL 13.688 MLB/H 0.000 20.00 5 B055 (23) A RECIRC LOOP A1 TEMP NRL 527.5 DEGF 270.0 570.0 6 B056 (24) A RECIRC LOOP B2 TEMP NRL 527.4 DEGF 270.0 570.0 9 E1266 A RECIRC FOMP SPEED NRL 78.165 PERCENT 18.000 102.0 10			Change Group	- 0	loup		Group Defi	nition		List Groups
Point ID Description Current Englineering Low High Piot Limit 1 B037 (19) A RECIRC PMP A1(DRIVE) FLOW NNL 17.063 MLB/H 0.000 20.000 2 B038 (20) A RECIRC PMP A2(DRIVE) FLOW NNL 17.063 MLB/H 0.000 20.000 3 B039 (21) B RECIRC PMP B1(DRIVE) FLOW NNL 13.688 MLB/H 0.000 20.00 4 B040 (22) B RECIRC PMP B2(DRIVE) FLOW NNL 13.688 MLB/H 0.000 20.00 5 B055 (23) A RECIRC LOOP A1 TEMP NNL 527.5 DEGF 270.0 570.0 6 B056 (24) A RECIRC LOOP A2 TEMP NNL 527.4 DEGF 270.0 570.0 7 B057 (25) B RECIRC LOOP B2 TEMP NNL 527.4 DEGF 270.0 570.0 9 E1266 A RECIRC FUNG SPEED NNL 78.585 PERCENT 18.000 102.0 10 E1267 B RECIRC FORD SPEED NNL 73.308		Group N	umber: ³ Group Name: REC	IRC					Group Status:	ACTIVE
1 B037 (19) A RECIRC PMP A1 (DRIVE) FLOW NNL 17.063 MLB/H 0.000 2 B038 (20) A RECIRC PMP A2 (DRIVE) FLOW NNL 17.063 MLB/H 0.000 3 B039 (21) B RECIRC PMP B1 (DRIVE) FLOW NNL 13.688 MLB/H 0.000 4 B040 (22) B RECIRC PMP E2 (DRIVE) FLOW NNL 13.688 MLB/H 0.000 5 B055 (23) A RECIRC LOOP A1 TEMP NNL 527.5 DEGF 270.0 6 B056 (24) A RECIRC LOOP A2 TEMP NNL 527.5 DEGF 270.0 7 B057 (25) B RECIRC LOOP B1 TEMP NNL 527.4 DEGF 270.0 8 B058 (26) B RECIRC FUMP SPEED NNL 527.4 DEGF 270.0 9 E1266 A RECIRC FUMP SPEED NNL 78.585 PERCENT 18.000 102.0 10 E1242 REACTOR CORE FLOW NNL 73.308 MLB/HR 0.000 102.0 11 E1242 REACTOR CORE FLOW NNL 73.308 MLB/HR 0.000 125.0		Point ID	Description	Statue	Current	Engineerin	g Plot Limit	Low	Hig	h Plot Limi
2 B038 (20) A RECIRC PMP A2 (DRIVE) FLOW NRL 17.063 MLB/H 0.000 3 B039 (21) B RECIRC PMP B1 (DRIVE) FLOW NRL 13.668 MLB/H 0.000 4 B040 (22) B RECIRC PMP B2 (DRIVE) FLOW NRL 13.668 MLB/H 0.000 5 B055 (23) A RECIRC LOOP A1 TEMP NRL 527.5 DEGF 270.0 6 B056 (24) A RECIRC LOOP A2 TEMP NRL 527.5 DEGF 270.0 7 B057 (25) B RECIRC LOOP B1 TEMP NRL 527.4 DEGF 270.0 7 B058 (26) B RECIRC LOOP B2 TEMP NRL 527.4 DEGF 270.0 8 B058 (26) B RECIRC POMP SPEED NRL 527.4 DEGF 270.0 9 E12667 A RECIRC POMP SPEED NRL 78.585 PERCENT 18.000 102.0 10 E1267 B RECIRC POMP SPEED NRL 73.308 NLB/ER 0.000 102.0 11 E1242 REACTOR CORE FLOW NRL 73.308 NLB/ER 0.000 125.	1	B037	(19) A RECIRC PMP A1(DRIVE) FLOW	NML	17,063	MLB/H	0.000			20.000
3 B039 (21) B RECIRC PAP B1(DRIVE) FLOW NML 13.688 MLB/H 0.000 4 B040 (22) B RECIRC PAP B2(DRIVE) FLOW NML 13.688 MLB/H 0.000 5 B055 (23) A RECIRC LOOP A1 TEMP NML 527.5 DEGF 270.0 6 B056 (24) A RECIRC LOOP A1 TEMP NML 527.5 DEGF 270.0 7 B057 (25) B RECIRC LOOP A1 TEMP NML 527.4 DEGF 270.0 6 B058 (26) B RECIRC LOOP B1 TEMP NML 527.4 DEGF 270.0 6 B058 (26) B RECIRC LOOP B2 TEMP NML 527.4 DEGF 270.0 6 B1266 A RECIRC PUMP SPEED NML 78.585 PERCENT 18.000 102.0 10 E1267 B RECIRC FUMP SPEED NML 78.165 PERCENT 18.000 102.0 11 E1242 REACTOR CORE FLOW NHL 73.308 NLB/HR 0.000 125.0 12 13 14 15 15 125.0 125.0 16 16 17	2	B038	(20) A RECIRC PMP A2(DRIVE) FLOW	NML	17.063	MLB/H	0.000			20.000
4 B040 (22) B RECIRC FMP E2 (DRIVE) FLOW NML 13.688 MLB/H 0.000 5 B055 (23) A RECIRC LOOP A1 TEMP NML 527.5 DEGF 270.0 6 B056 (24) A RECIRC LOOP A1 TEMP NML 527.5 DEGF 270.0 7 B057 (25) B RECIRC LOOP B1 TEMP NML 527.4 DEGF 270.0 8 B058 (26) B RECIRC LOOP B1 TEMP NML 527.4 DEGF 270.0 9 E1266 A RECIRC LOOP B2 TEMP NML 527.4 DEGF 270.0 9 E1267 B RECIRC PUMP SPEED NML 78.585 PERCENT 18.000 10 E1267 B RECIRC PUMP SPEED NML 78.165 PERCENT 18.000 11 E1242 REACTOR CORE FLOW NML 73.308 MLB/HR 0.000 125.0 12 13 14 15 15 16 17 18 125.0 18 19 CANDIDATE E 102.0 102.0 102.0 125.0	3	B039	(21) B RECIRC PMP B1(DRIVE) FLOW	NML	13.688	MLB/H	0.000			
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	G	roup F	Point Dis	play - G	roup	Dat	a Displa Group Definition	y on	LG1PA	List Groups
	Group Nu	umber: ²	Group Nam	e: JET PUMP D,	'P'S ("Z"	SHIFT	ST)	Gr	oup Status:	ACTIVE
	Point ID	Description		Status	Current Value	Engine Units	ering Plot Limit	Low	Hig	jh Plot Limit
	E1084	JET PUMP 1	SINGLE TAP DP	NML	31.416	*	0.000			100.000
	E1103	JET PUMP 2	SINGLE TAP DP	NML	31.323	%	0.000			100.000
;	E1105	JET PUMP 3	SINGLE TAP DP	NML.	29.318	*	0.000			100.000
	E1247	JET PUMP 4	SINGLE TAP DP	NML.	30.552	%	0.000		Þ	100.000
	E1249	JET PUMP 5	SINGLE TAP DP	NML	31.756	*	0.000			100.000
;	E1255	JET PUMP 6	SINGLE TAP DP	NML	33.422	*	0.000			100.000
•	E1257	JET PUMP 7	SINGLE TAP DP	NML	29.873	%	0.000			100.000
	E1259	JET PUMP 8	SINGLE TAP DP	NML	28.330	%	0.000			100.000
	E126 3	JET PUMP 9	SINGLE TAP DP	NML	30.861	%	0.000			100.000
2	E1265	JET PUMP 1	.0 SINGLE TAP DP	NML	31.756	%	0.000		P	100.000
I	E1037	JET PUMP 1	1 SINGLE TAP DP	NML	31.413	*	0.000			100.000
2	E1097	JET PUMP 1	2 SINGLE TAP DP	NML.	31.599	%	0.000			100.000
3	E1104	JET PUMP 1	.3 SINGLE TAP DP	NML	28.650	%	0.000			100.000
I	E1235	JET PUMP 1	4 SINGLE TAP DP	NML	30.481	%	0.000			100.000
	E1254	JET PUMP 1	.5 SINGLE TAP DP	NML	31.009	%	0.000			100.000
;	E1248	JET PUMP 1	6 SINGLE TAP DP	NML	33.244	%	0.000 _			100.000
7	E1256	JET PUMP 1	7 SINGLE TAP DP	NML	28.557	%	0.000			100.000
3	E1258	JET PUMP 1	8 SINGLE TAP DP	NML	31.319	%	0.000			100.000
9	E1260	JET PUMP 1	9 SINGLE TAP DP	NML	4.306	%	0.000			100.000
)	E1264	JET PUMP 2	0 SINGLE TAP DP	NML	4.488	*	0.000			100.000
0	7:30:39	PS-PRINT	- %SYSTEM-	S-NORMAL				;	LIMERICK 1	
				~			FWD BWD	1	.3-AUG-02	7:30:42

(

TITLE: DETERMINE OFFGAS EFFLUENT ACTIVITY RELEASE RATE

TASK PERFORMED BY:	EVALUATOR:
EVALUATOR SIGNATURE:	DATE:

DIRECTIONS TO EVALUATOR:

- 1. Provide copy of GP-5, "STEADY STATE OPERATIONS" at the start of the JPM
- 2. Provide calculator to candidate if needed

EVALUATION METHOD :

PERFORM

EVALUATION LOCATION:

ANY

APPROXIMATE COMPLETION TIME:

15 MINUTES

IMPORTANCE RATING(S):

SYSTEM NUMBER(S):

2.7

2.3.11

REFERENCES:

GP-5, "STEADY STATE OPERATIONS"

TASK STANDARD(S):

Average pre-treatment release rate calculated to be 4619 to 5105 (4862 +/- 5%)

TASK CONDITIONS:

- 1. Unit 1 is in OPCON 1
- 2. RR-26-1R601 "A" SJAE Discharge Rad Monitor reads 110 mRem/hr
- 3. RR-26-1R601 "B" SJAE Discharge Rad Monitor reads 131 mRem/hr
- 4. FR-69-*15 (scfm) Point 2 Reads 35 scfm

The following placard is mounted to the 10C600 panel:

U/1 OFF G SUM OF S	AS IX	5060
K"A" K"B"	<u>1.18</u> 1.13	
DATE:		10/6/02

INITIATING CUES:

The CRS has directed you to calculate the average offgas pre-treatment radioactivity release rate per GP-5, "STEADY STATE OPERATIONS"

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

STEP	STANDARD	SAT/UNSAT
 CALCULATE Off-gas release rates for the A <u>AND</u> B channels using the following equation: 	N/A	
RR = RL x F x K		
Where:		
RR = Release Rate for A(B) (μCi/second)		
RL = Radiation Level of SJAE as indicated on RR-26-*R601 (mRem/hour)		
F = Off-gas flow as indicated by FR-69-*15 (scfm), Point 2		
Conversion Factor for A(B) data (posted on panel *0C600)		
2. <u>Channel A</u> (Point 1) RR = mRem/hour xCFM xK RR = μCi/second	Calculate "A" channel release = 4543 uci/sec 110 x 35 x 1.18 = 4543	
3. <u>Channel B</u> (Point 2) RR = mRem/hour xCFM xK RR = μCi/second	Calculate "B" channel release = 5181 uci/sec 131 x 35 x 1.13 = 5181	

STEP	STANDARD	SAT/UNSAT
*4. CALCULATE the average of the A <u>AND</u> B channel values to obtain the average Off-gas pretreatment release rate as follows:	Calculate the average release rate ARR= (4543 +5181)/2 = 4862 uCi/sec	
ARR = <u>(RR "A") + (RR "B")</u> 2 Where:	Acceptable band is 4619 to 5105 (4862 +/- 5%)	
ARR = Average Off-gas Pretreatment Release Rate (μCi/second)		
RR "A" = Release Rate value for "A" Channel (μCi/second)		
RR "B" = Release Rate value for "B" Channel (μCi/second)		
ARR = (<u>) + (</u>) 2		
ARR = μCi/second		
(CUE: You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

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Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. Unit 1 is in OPCON 1
- 2. RR-26-1R601 "A" SJAE Discharge Rad Monitor reads 110 mRem/hr
- 3. RR-26-1R601 "B" SJAE Discharge Rad Monitor reads 131 mRem/hr
- 4. FR-69-*15 (scfm) Point 2 Reads 35 scfm

The following placard is mounted to the 10C600 panel:

U/1 OFF G SUM OF S	GAS SIX	5060
K"A" K"B"	<u>1.18</u> 1.13	
DATE:		10/6/02

INITIATING CUES:

The CRS has directed you to calculate the average offgas pre-treatment radioactivity release rate per GP-5, "STEADY STATE OPERATIONS"

CANDIDATE

TITLE: DETERMINE EMERGENCY ACTION LEVEL

TASK PERFORMED BY:	(SRO ONLY) EVALUATOR:
EVALUATOR SIGNATURE:	DATE:

DIRECTIONS TO EVALUATOR:

1. Provide ERP-101 or access to the procedure at the beginning of the JPM

EVALUATION METHOD :

PERFORM

EVALUATION LOCATION:

ANY

APPROXIMATE	COMPLETI	ON TIME:
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15 MINUTES (Time Critical)

IMPORTANCE RATING(S):

SYSTEM NUMBER(S):

4.1

2.4.41

REFERENCES:

ERP-101, CLASSIFICATION OF EMERGENCIES

TASK STANDARD(S):

Site Area Emergency identified

TASK CONDITIONS:

- 1. Unit 1 has been scrammed due to LOCA
- 2. The mechanical vacuum pump was started and caught fire. The fire burned for 20 minutes before being extinguished
- 3. All rods are inserted
- 4. RPV level is 60 inches
- 5. Drywell pressure is 45 psig and rising
- 6. Drywell post LOCA monitors read 30 R/hr

INITIATING CUES:

This is a time critical JPM

You are directed to classify the event and give the reason for the classification

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

Note: Begin the 15 minute time limit after the candidate has reviewed the task conditions

	STEP	STANDARD	SAT/UNSAT
1.	Review Emergency Action Levels for categories selected	Select Fire (8.2) and Fission Product Barrier (3.0) EALs	
2.	Classify the event based on selected categories and most severe EALs	Determine the classification based on the fire is limited to an Unusual Event	
*3	Classify the event based on selected categories and most severe EALs	Determine the most severe EAL is Site Area Emergency based on Reactor Coolant System loss and Primary Containment Potential loss within 15 minutes	
(CUE	E: You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. Unit 1 has been scrammed due to LOCA
- 2. The mechanical vacuum pump was started and caught fire. The fire burned for 20 minutes before being extinguished
- 3. All rods are inserted
- 4. RPV level is 60 inches
- 5. Drywell pressure is 45 psig and rising
- 6. Drywell post LOCA monitors read 30 R/hr

INITIATING CUES:

This is a time critical JPM

You are directed to classify the event and give the reason for the classification

CANDIDATE

TITLE: DETERMINE COMPENSATORY ACTIONS FOR BARRIER BREACH

TASK PERFORMED BY:	(SRO ONLY) EVALUATOR:
EVALUATOR SIGNATURE:	DATE:
DIRECTIONS TO EVALUATOR:	
1. Provide A-C-134 at the start o	f the JPM
EVALUATION METHOD : PERFORM	
EVALUATION LOCATION:	
ANY	
APPROXIMATE COMPLETION TIME:	
15 MINUTES	
IMPORTANCE RATING(S):	SYSTEM NUMBER(S):
3.3	2.2.10

REFERENCES:

- 1. A-C-134, CONTROL OF HAZARD BARRIERS
- 2. A-C-134-5, CONTROL OF HAZARD DOORS/HATCHES/PANELS AT LIMERICK GENERATING STATION

TASK STANDARD(S):

Barrier breach identified as requiring Tech Spec compensatory actions

TASK CONDITIONS:

- 1. OPCON 1
- 2. Door 73 on the Unit 2 177' elevation of Unit 2 has been damaged and cannot be closed. Maintenance has reported that the door must be removed and a new hinge welded in place.
- 3. No barrier breach permit currently exists for this door
- 4. Maintenance has reported that the repairs are expected to take four days due to parts availability

INITIATING CUES:

Determine any required actions to support Door 73 being propped open for repair and the most limiting Limiting Conditions for Operation due to the above conditions.

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

	STEP	STANDARD	SAT/UNSAT
(CUE): Provide A-C-134 and A-C-134-5			
1.	(Step 7.4.2) Review Barrier Breach Book to determine if a BBP exists for this breach	N/A	
2.	If a BBP does not exist for a door/hatch breach, Shift shall:	N/A	
3.	Return door/hatch to its closed position	N/A	
4.	If breach is in a security barrier, contact Security	N/A	
5	If door/hatch can not be closed, review Exhibit A-C-134-5 [LGS] or Exhibit A-C-134-6 [PBAPS]	Review A-C-134-5 and determine that door 73 is a hazard door	
*6	to determine what compensatory measures are needed for the breach	Determine that a fire watch must be posted Determine that "2A" and "2C" RHR Pumps must be declared inop Determine that the most limiting required actions are to restore the door to operable within 72 hours or be in HOT SHUTDOWN within the next 12 hours and COLD SHUTDOWN in the following 24 hours (LCO 3.6.2.3 – SP Cooling)	
(CUE	You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. OPCON 1
- 2. Door 73 on the Unit 2 177' elevation of Unit 2 has been damaged and cannot be closed. Maintenance has reported that the door must be removed and a new hinge welded in place.
- 3. No barrier breach permit currently exists for this door
- 4. Maintenance has reported that the repairs are expected to take four days due to parts availability

INITIATING CUES:

Determine any required actions to support Door 73 being propped open for repair and the most limiting Limiting Conditions for Operation due to the above conditions.

CANDIDATE

	TITLE: LIQUID RAD RELEASE INOP MONITOR ACTIONS		
	TASK PERFORMED BY:	(SRO ONLY) EVALUATOR:	
	EVALUATOR SIGNATURE:	DATE:	
	DIRECTIONS TO EVALUATOR:		
	1. Provide access to Offsite Dos	e Calculation Manual (ODCM) at start of JPM	
	EVALUATION METHOD :		
	PERFORM		
	EVALUATION LOCATION:		
	ANY		
	APPROXIMATE COMPLETION TIME:		
_	15 MINUTES		
	IMPORTANCE RATING(S):	SYSTEM NUMBER(S):	
	2.9	2.3.3	
ļ	REFERENCES:		
	LGS Offsite Dose Calculation Manual LGS ST-5-061-570-0, RADWASTE DISCHARGE PERMIT		

TASK STANDARD(S):

Determine that radwaste discharges may continue provided the ODCM or ST compensatory actions are taken

TASK CONDITIONS:

- 1. Radwaste and Chemistry are preparing to make a liquid radwaste discharge to the cooling tower blowdown line
- 2. Radwaste effluent rad monitor 00S368 has been inoperable for the past 24 hours

INITIATING CUES:

You are directed to determine the actions necessary if the release is to proceed, and any time limits associated with those actions

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

	STEP	STANDARD	SAT/UNSAT
ODCM 3 1. Locate sectio Provic Relea <i>Liqui</i> o	3.2.2 e ODCM Liquid Effluent Monitors on. Gross Radioactivity Monitors ding Automatic Termination of ase d Radwaste Effluent Line	Determine that the monitor is required per the ODCM and the minimum required channels is one. (Note- There is only one monitor installed)	
2. A N o c tř	Action 100- With less than the Ainimum Required Channels operable, effluent releases may continue for up to 14 days provided hat prior to initiating a release	Determine that Action 100 applies and releases may continue for 14 days	
*3. A a I3	At least two independent samples are inalyzed in accordance with Table 3.2-3, and	Determine that two independent chemistry samples of the effluent are required	
*4. A m in ca	at least two technically qualified members of the facility staff independently verify the release rate alculations and discharge line valving	Determine that two chemistry technicians are required to verify the calculations and two operators are required to verify the valve lineup	
(CUE: Y te	You may stop here, you have met the ermination criteria for this JPM.)	N/A	N/A

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. Radwaste and Chemistry are preparing to make a liquid radwaste discharge to the cooling tower blowdown line
- 2. Radwaste effluent rad monitor 00S368 has been inoperable for the past 24 hours

INITIATING CUES:

You are directed to determine the actions necessary if the release is to proceed, and any time limits associated with those actions

CANDIDATE

Review page from ODCM (Delete after review) <u>A-3 SRO ODCM Excerpt</u>

TABLE 13.2-1

RADIOACTIVE LIQUID EFFLUENT MONITORING INSTRUMENTATION

		MINIMUM CHANNELS	
		OPERABLE	ACTION
1.	Gross Radioactivity Monitors Providing Automatic Termination of Release		
	a. Liquid Radwaste Effluent Line	1	100
	b. A/B RHR Service Water Effluent Line *	1/100p	101
2.	Gross Radioactivity Monitors Not Providing Automatic Termination of Release		
	a. Service Water Effluent Line	1	101
3	Flow Rate Measurement Devices		
	a. Liquid Radwaste Effluent Line	1	102
	b. Discharge Line	1	102

* Termination of the release is accomplished by auto trip of the RHRSW pumps and remote manual closure of isolation valves.

ACTION STATEMENTS

- Action 100- With less than the Minimum Required Channels operable, effluent releases may continue for up to 14 days provided that prior to initiating a release:
 - a. At least two independent samples are analyzed in accordance with Table I3.2-3, and
 - At least two technically qualified members of the facility staff independently verify the release rate calculations and discharge line valving;

Otherwise, suspend release of radioactive effluents via this pathway.

EXELON NUCLEAR			
TITLE: INITIATE SITE EVACUATIO	<u>N</u>		
TASK PERFORMED BY:	EVALUATOR:	<u> </u>	
EVALUATOR SIGNATURE:	DATE:		
DIRECTIONS TO EVALUATOR:			
1. Provide ERP-120 at the	start of the JPM		
EVALUATION METHOD :			
PERFORM			
EVALUATION LOCATION:			
SIMULATOR			
APPROXIMATE COMPLETION TIM	E:		
15 MINUTES			
IMPORTANCE RATING(S):	SYSTEM NUMBER(S):		
2.9	2.4.29		
REFERENCES:			
ERP-120, STATION EVACUA	TION		
TASK STANDARD(S):			

Alarm activated for entire plant and announcement made to evacuate to Pottstown Limerick Airport

TASK CONDITIONS:

- 1. A Site Area Emergency drill has been declared
- 2. Drill conditions require a site evacuation to the Pottstown Limerick Airport
- 3. Individuals will exit via the front gate

INITIATING CUES:

The Control Room Supervisor has directed you to sound the site evacuation alarm for the entire plant and make the plant announcement for evacuation per ERP-120, STATION EVACUATION, Step 2.3.1

Critical Element(s) indicated by "*" in Performance Checklist.

PERFORMANCE CHECKLIST:

	STEP	STANDARD	SAT/UNSAT
1.	Set the Siren tone generator to the SIREN (Preferred) Position	Switch set to SIREN	
*2.	Pull out "EVACUATION ALARM AND RIVER WARNING SELECT" switch located on MCR Panel 00C650 <u>AND</u> rotate to desired position <u>THEN</u> push selector switch in	Set switch to PLANT ALARM and push back in to sound the alarm	
A.	CONT 1 - Sounds alarm in Unit 1 primary containment only.		
B.	CONT 2 - Sounds alarm in Unit 2 primary containment only.		
C.	PLANT ALARM - Sounds alarm in entire plant.		
3.	Sound alarm for approximately 30 seconds	Sound alarm for approximately 30 seconds	
*4.	Return "EVACUATION ALARM AND RIVER WARNING SELECT" switch to "OFF" position to silence alarm.	Switch selected to OFF	

STEP	STANDARD	SAT/UNSAT
STEP *5.WHEN alarms are silent, THEN announce over the Priority Page System: "ATTENTION ALL PERSONNEL. THIS (IS/IS NOT) A DRILL. THIS (IS/IS NOT A DRILL). A SITE EVACUATION HAS BEEN ORDERED BY THE EMERGENCY DIRECTOR. DESIGNATED EMERGENCY RESPONSE PERSONNEL REPORT TO ASSIGNED ASSEMBLY AREA OR FACILITY. ALL OTHER PERSONNEL EVACUATE THE SITE IMMEDIATELY. EVACUATING PERSONNEL SHALL: A. EXIT THE PAB VIA THE TSC GUARD STATION EXIT LANES B. EXIT THE SITE VIA (THE FRONT GATE USING EVERGREEN ROAD AND/OR THE BACK GATE USING LONGVIEW ROAD). C. REASSEMBLE AT (CROMBY GENERATING STATION/OR DOTIONAL LIMEDIAL	STANDARDAnnouncement made per the script with the following critical elements:• Exit via the front gate• Re-assemble at the Pottstown – Limerick AirportIt is not critical that the other portions are exactly verbatimNOTE:The procedure requires the Operator to repeat the alarm and announcement. The JPM is terminated in the next step following the FIRST announcement	SAT/UNSAT
THIS (IS/IS NOT) A DRILL. THIS (IS/IS		
NOT) A DRILL."		
(CUE: You may stop here, you have met the termination criteria for this JPM.)	N/A	N/A

Comments:

Note: Any grade of UNSAT requires a comment.

JPM Overall Rating:

SAT/UNSAT

TASK CONDITIONS:

- 1. A Site Area Emergency drill has been declared
- 2. Drill conditions require a site evacuation to the Pottstown Limerick Airport
- 3. Individuals will exit via the front gate

INITIATING CUES:

The Control Room Supervisor has directed you to sound the site evacuation alarm for the entire plant and make the plant announcement for evacuation per ERP-120, STATION EVACUATION, Step 2.3.1

CANDIDATE