

February 18, 2002

L-2002-028 10 CFR 50 Appendix E

U. S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, D. C. 20555

Re: St. Lucie Units 1 and 2 Docket Nos. 50-335 and 50-389 Emergency Plan Implementing Procedure

In accordance with 10 CFR 50 Appendix E, enclosed is a copy of the revised procedure that implements the Emergency Plan as listed below.

Number	Title	<u>Revision</u>	Implementation Date
EPIP-09	Off-Site Dose Calculations	6	January 28, 2002

EPIP-09 Revision 6 has been completely rewritten. The instructions and procedure layout were reformatted to accommodate users with different backgrounds. In addition, human factors improvements and editorial/administrative changes were incorporated. Please contact us if there are any questions regarding this procedure.

Very truly yours,

Donald E. Jernigan Vice President St. Lucie Plant

DEJ/tlt

Enclosure

P045

<b>FPL</b>	

# ST. LUCIE PLANT

### EMERGENCY PLAN IMPLEMENTING PROCEDURE

Procedure No.

EPIP-09

Current Revision No.

6

Effective Date 01/28/02

Title:

## **OFF-SITE DOSE CALCULATIONS**

SAFETY RELATED

Responsible Department: EMERGENCY PREPAREDNESS

#### **REVISION SUMMARY:**

**Revision 6 - THIS PROCEDURE HAS BEEN COMPLETELY REWRITTEN**. Reformatted instructions / procedure layout to better accommodate user's with different backgrounds, added data interpretation information for both units to assist persons with less background in release pathways and effluent monitors, made human factors improvements, and made editorial / administrative changes. (M. Cooper, 11/15/01)

Revision 5 – Clarified Delta T determination. (J. R. Walker, 06/18/01)

**Revision 4** – Revised fan flow rates to accommodate for maintenance acceptance criteria and included minor correction to a number used in an example. (Steve Knapp, 02/02/01)

**Revision 3** - Made human factors improvements; identified applicable unit, relocated note and caution messages, changed table, revised instructions for changing date and time on Class A computer, and changed responsible department from Training to Emergency Preparedness. (Steve Knapp, 09/11/00)

Revision 2 - Revised procedure number to address QA comment from periodic review (Appendix J). (J. R. Walker, 03/18/99)



Revision 0	FRG Review Date 12/15/97	Approved By J. Scarola	Approval Date 12/15/97	S_ DATE	OPS
<u> </u>	·····	Plant General Manager		DOCT	PROCEDURE
Revision 6	FRG Review Date 11/15/01	Approved By R. G. West	Approval Date 11/15/01	DOCN SYS	EPIP-09
		Plant General Manager N/A		COM ITM	COMPLETED 6
		Designated Approver N/A			
		Designated Approver (Minor Correction)	-		

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	EPIP-0	)9	ST. LUCIE PLANT						
1.0	PURF	POSE							
1.1	Discu	ssion							
	1.	be affe	his procedure is applicable to both Unit 1 and Unit 2. Should both units e affected, provisions have been made on the worksheets to sum the elease rates.						
	2.	be use	e dose estimates, release rates and containment radiat ed by the EC for classifying emergencies and making P Recommendations (PARs).	ion levels will rotective					
	3.	instruc This m paralle is avai	ment 6, CLASS A MODEL DOSE CALCULATIONS, proceedings for performing dose calculations using the compu- model estimates off-site dose rates and cumulative dose els this procedure. More detailed information on the Cla ilable in the "FPL - Class A Emergency Offsite Dose Ca Guide;" a controlled copy of which is available in the TS	iter model. es and ass A Model alc Program					
	4.	BURP	nment 10, RESPONDING TO AN UNMONITORED CO , is to be used to assess unmonitored releases resultin nment depressurization events.	NTAINMENT g from rapid					
	5.	used t	nment 11, ESTIMATE OF CONTAINMENT "% MASS L to assess a rapid depressurization (i.e., greater than de inment through an estimate of containment volume loss	sign basis) of					
	6.	provid	nment 12, FIELD TEAM MEASUREMENTS ASSESSM les a method to back calculate a release rate from Field survey results.	ENT, d Monitoring					

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.0	REFE	RENC	ES / RECORDS REQUIRED / COMMITMENT DOCUM	IENTS			
	One	or more	NOTE e of the following symbols may be used in this procedur	re:			
	Co sh	ondition all NO	s a Regulatory commitment made by Technical Specific n of License, Audit, LER, Bulletin, Operating Experience T be revised without Facility Review Group review and Manager approval.	e, etc. and 🛛			
	or	other	s a management directive, vendor recommendation, pla non-regulatory commitment that should NOT be revised tion with the plant staff.	int practice d without			
	ΨIn	dicates	s a step that requires a sign off on an attachment.				
2.1	Refe	rences					
	1.	St. Lu Unit :	ucie Plant Updated Final Safety Analysis Report (UFSA 2	R), Unit 1 and			
	2.	St. L	ucie Plant Radiological Emergency Plan (E-Plan)				
	3.	E-Pla	an Implementing Procedures (EPIP-00 - 13)				
	4.	HP-2	P-2, FP&L Health Physics Manual				
	5.	QI-17-PSL-1, Quality Assurance Records					
	6.	6. Bases for Accident Dose Calculations for St. Lucie Nuclear Power Pla (Bases prepared by HMM Associates of Waltham, Massachusetts)					
	7.	Eval	REG-0654, Rev. 1, FEMA Rep-1, Criteria for Preparation uation of Radiological Emergency Response Plans and upport of Nuclear Power Plants, November, 1980	n and Preparednes			
	8.	NUREG/BR-150, Vol. 1, Response Technical Manual					
	9.		-400-R-92-001, EPA Manual of Protection Action Guide ective Actions for Nuclear Incidents, October, 1991.	es and			
	10. ¶2						

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2.2	Reco	ords R	lequired	
	similar		completed data/worksheets or computer generated forms ilar information, shall be maintained in the plant files in ac n QI-17-PSL-1.	providing cordance
2.3	Com	mitme	ent Documents	
	1.	<b>¶</b> 1	Condition Report 96-2609 (ERDADS Data/Fan Status)	
	2.	¶з	PMAI PM99-09-016 (PARs Based on FMT Data)	
	3.	¶4	Condition Report 00-1426 Supplement 1 (Fan Flowrate	s)
			PMAI PM01-05-073, Condition Report CR 01-0351 (De Delta T)	termination of

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3.0	RES	PONSIB	ILITIES			
3.1	The Chemistry Department shall be responsible for performing off-site dose calculations, when directed by the Emergency Coordinator.					
3.2			se Assessor shall take primary responsibility for dose a F is operational.	assessment		
4.0	DEF	NITION	S			
4.1	Abbr	eviations	s/Acronyms			
	1.	Calcul	Protective Action Recommendation - designation use lation Worksheet that refers to data that should be use nining Protective Action Recommendations.	d on a Dose d when		
	<ol> <li>SNF - State Notification Form - designation used on the Dose Calcula Worksheet that refers to data that should be transferred to the Florida Nuclear Plant Emergency Notification Form.</li> </ol>					
	3.	<b>Class</b> Emerg	a <b>A Model</b> - Commonly used to refer to the "FPL - Clas gency Offsite Dose Calc Program".	s A		
4.2	<b>Affe</b> the l	<b>cted Un</b> Emerger	i <b>t</b> - (for purposes of this procedure) - a reactor unit tha ncy Plan and has a <b>release</b> .	t has activated		
4.3	<b>lodi</b> runr	ne Reme	oval System - is defined as any one Containment Spr its chemical addition system injecting the chemicals.	ay pump		
	1.		system is considered in service if any one Containmen ning <u>AND</u> for:	t Spray Pump		
-		Α.	<u>Unit 1</u> , if its Sodium Hydroxide (NaOH) tank level is o	decreasing.		
		В.	<u><b>Unit 2</b></u> , if its Hydrazine (N <sub>2</sub> H <sub>4</sub> ) pump is "ON".			

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4.4	Core Overhe		eating / Melting - Severe core damage, beyond gap fai	lure, typically		
	1.	The co	ore being uncovered, by coolant, for 30 minutes or more	Э.		
	2.	CHRR	M reading greater than 4.2 E+4 R/hr.			
	signi proce immi	fies the s edure sig inent and	<b>NOTE</b> Fore Exit Thermocouple value used in other procedures starting point for potential core melting. The value used gnifies that the core is in an overheat condition, melting d the release may include particulates, (e.g., Bariums, rontiums, etc.).	t in this is		
	3.	Valid (	Core Exit Thermocouple reading(s) in excess of 1700°F			
4.5	<b>Part</b> i to ac	<b>iculate f</b> count fo	Factor (PF) - a factor used when core melt or overheat or the particulate in the release pathway.	is under way		
	<u>NOTE</u> <u>Prior</u> to the declaration of a release, all viable channels for the effluent pathway should be evaluated to confirm increase of the applicable monitor reading(s).					
4.6	Rele	ease - du	uring any declared emergency, one of the following is tr	ue:		
	1.		ffluent monitor increase of (approximately) 10 times or e pre-transient values	one decade		
			OR			
	2.	perce	h Physics detecting airborne radioactivity levels in exce ant Derived Air Concentration (DAC) <u>outside</u> of plant bui e of equipment associated with the declared emergency	Idings due to		
4.7	Sea	-breeze	- is a coastal phenomena where an artificial ceiling may	y exist.		
	1.	as a l	neteorological data processing methods assume that th imit to vertical mixing; that is, the plume is below the ce to a slightly higher concentration for a given stability cl	illing. This		
	2.	manu statin ceilin This	Class A Model will, in some cases, state "Sea-breeze: ` ual calculations would indicate No Impact. The Class A ug that sea-breeze may exist, although there is no impac g is too high to affect the vertical mixing within 10 miles will not cause significant deviations in calculations perfo wo methods.	Model is ct because the of the plant.		

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EF	PIP-09	ST. LUCIE PLANT	
4.8 S	<b>ymbols</b> - th	e following symbols are used in this procedure:	
1	. < = les	ss than	
2	. ≤=les	ss than or equal to	
<b>3</b> . > = gro		eater than	
4	. ≥ = gr	eater than or equal to	
_		the standard standard the second standards	10 in raised for

- **5.** E =stands for exponent and indicates the power to which 10 is raised, "or times 10 to the power of", e.g.:
  - **A.**  $E + 04 = 10^4 = 10,000$
  - **B.** E 04 = 10<sup>-4</sup> = 0.0001

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5.0	INSTRUCT	IONS								
5.1	Data Acquisition									
	Evaluating	data on	<u>NOTE</u> ossibility of a release from an unmonitored point. a system / component pressures, operating chara iation monitors will help identify such releases.	acteristics						
		luate av inent.	ailable plant data to determine if a release has o	ccurred or is						
		<ol> <li>When a release is confirmed, acquire meteorological and source term data;</li> </ol>								
	and Efflue	nt Monit	<u>NOTE</u> ta Interpretation, Plant Parameters, Release Path cors for Unit 1 and Unit 2 is available in Attachme	nways nts 4 and						
	Informatio and Efflue 5, respect	nt Monit	ta Interpretation, Plant Parameters, Release Path	nways nts 4 and						
	and Efflue	nt Monit <u>vely.</u> <u>If</u> ER	ta Interpretation, Plant Parameters, Release Path fors for Unit 1 and Unit 2 is available in Attachme RDADS - Emergency Data Acquisition and Displa able, <u>Then</u> :	nts 4 and						
	and Efflue 5, respect	nt Monit <u>vely.</u> <u>If</u> ER	ta Interpretation, Plant Parameters, Release Path ors for Unit 1 and Unit 2 is available in Attachme RDADS - Emergency Data Acquisition and Displa	nts 4 and						
	and Efflue 5, respect	nt Monit <u>vely.</u> <u>If</u> ER avail <b>1</b> .	ta Interpretation, Plant Parameters, Release Path ors for Unit 1 and Unit 2 is available in Attachme RDADS - Emergency Data Acquisition and Displa able, <u>Then</u> : Obtain SMD and / or RG (1 or 2) as provided in	nts 4 and y System, is n						
	and Efflue 5, respect <b>A</b> .	nt Monit <u>vely.</u> <u>If</u> ER avail <b>1</b> .	ta Interpretation, Plant Parameters, Release Path fors for Unit 1 and Unit 2 is available in Attachme RDADS - Emergency Data Acquisition and Displa able, <u>Then</u> : Obtain SMD and / or RG (1 or 2) as provided in Attachment 1.	nts 4 and y System, is n sable, <u>Then</u> :						
	and Efflue 5, respect <b>A</b> .	nt Monit <u>vely.</u> <u>If</u> ER avail <b>1.</b> <u>If</u> EF	ta Interpretation, Plant Parameters, Release Path fors for Unit 1 and Unit 2 is available in Attachme RDADS - Emergency Data Acquisition and Displa able, <u>Then</u> : Obtain SMD and / or RG (1 or 2) as provided in Attachment 1.	nts 4 and y System, is n sable, <u>Then</u> : achment 7.						

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5.1	Data Acqui		ion (c	ontinued)	
	2.	(contin	ued)		
		С.	Obtai	n plant ventilation exhaust fan status	
		n obtain ify fan n		<u>NOTE</u> ant ventilation exhaust fan status from the Contro rs.	l Room,
	<u></u>		1.	Prior to a fully-staffed TSC, obtain exhaust fan s the affected Control Room.	status from
	TSC venti	Sound- lation ex	power (haust	<u>NOTE</u> ed Phone Talker can be utilized as a source for p fan status not available from TSC status boards	olant
			2.	When the TSC is fully staffed, obtain exhaust father the Safety Functions and Equipment Status both TSC.	an status from ard in the
			3.	When the EOF is operational, obtain exhaust fa TSC Dose Assessor or TSC Chemistry Superv	an status from isor.
5.2	Off-S	Site Dose	e Calc	ulations Methodologies	
	1.	The C	lass A	Model should be used if it is available.	
		А.		orm system start-up and pre-use verification QC ( rdance with Attachment 6.	Check in
		В.		stem start-up and QC check are acceptable, perfo lations using the Class A Model.	orm dose
	2.			Nodel is NOT available, <u>Then</u> perform manual dos hments 7 through 12.	se calculations
5.3		ide the l trol Rooi		gency Coordinator with dose calculation results p SC.	repared in the
	1.	Provid the C	de TS ontrol	C Administrative Staff with dose calculation resul Room or TSC and request results are faxed to E	ts prepared in OF.
1					

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5.4			Recovery Manager and EOF HP Manager with dose call red in the EOF.	culation
5.5	opera	ational, s	emistry Supervisor or EOF HP Manager, once the EOF should monitor release rates and meteorological conditi w frequently to update the dose rate estimates.	is ons to
	1.	8 hour	se and dose estimates shall be revised at least hourly for rs after the accident unless it is determined that release activity have been terminated.	or the first s of
	2.	wing iod of		
		Α.	Release rates increase by more than 25 percent.	
			OR	
		ıs value.		
			OR	
		C.	Atmospheric stability becomes more stable by more th (e.g., change from stability D to F).	an one class
			OR	
		D.	Wind direction changes by more than 22.5 degrees (i. centerline is more than one sector away from prior loc	e., plume ation).
			END OF SECTION 5.0	

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	<u></u>		ATTACHMENT 1 DATA ACQUISITION VIA ERDADS (Page 1 of 2)				
			CAUTION ors may result if the ERDADS computer is NOT addres init's database.	ssing the			
	2. ¶		ata" after a parameter name means that this input is No	тс			
I.	System Set-up						
	Α.		for a small square cursor at the top left corner; if it is ready.	present, the			
		1.	If it is not present, be sure the <dim non-dim=""> select is on <non dim=""> and then increase the contract and (knobs at the bottom left of screen).</non></dim>				
	В.	Press	<clear>.</clear>				
	C.		'Pup Unit 1" to access Unit 1 data, type "Pup Unit 2" to then press <exec>.</exec>	access Unit 2			
	D.	•	f screen will read "Unit change is complete" or "Curren ered Unit".	it Unit is same			
2.	To a	ccess da	ata using Primary Group Key				
	Α.	Press	<clear>.</clear>				
	В.	Press	the yellow <epip> key.</epip>				
		1.	<b>SMD</b> , titled "Site Meteorological Data", showing 15 m 10 and 59.7 meter wind speed, wind direction, tempe differential temperature will display.				

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<b>2</b> . (cor		ATTACHMENT 1 DATA ACQUISITION VIA ERDADS	
•	ntinued)	DATA ACQUISITION VIA ERDADS	
•	ntinued)		
C.			
	Press	<pg-dn> to scroll through, in order:</pg-dn>	
	1.	<b>RG (1 or 2)</b> , titled "Radiation Gaseous Source Term", s plant effluent monitor, Main Steam Line monitor, CHRF containment pressure and same site meteorological da	RM and
¶1	Certain p available	<u>CAUTION</u> arameters (e.g., fan status) available on Unit 2 (SF2) ar on Unit 1 (SF1).	e NOT
	2.	<b>SF (1 or 2)</b> , titled "Safety Functions and Equipment St showing TSC Status Board data.	atus",
	3.	<b>RBS</b> , titled "Health Physics Evaluation Screen" showir containment radiation levels and trends (not required f assessment).	ng or dose
	4.	<b>EF (1 or 2)</b> , titled "EOF Data Sheet" showing EOF Sta data.	tus Board
	5.	Return to SMD.	
<b>3.</b> To	access C	Chemistry Data and Radiation Monitors:	
Α.	Press	s <clear>.</clear>	
В.	Туре	R (Unit 1) and press <dsply>.</dsply>	
	1.	<b>R (Unit 1)</b> , page 1 of Radiation Monitors showing area monitor data will display. Press <pg-dn> to display f pages of radiation monitor data.</pg-dn>	a radiation following
<b>4</b> . To	access	other data using Display Name Code:	
А.	Pres	s <clear>.</clear>	
B.		the 3 character alpha-numeric display name code and PLY>.	press
		END OF ATTACHMENT 1	

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	<u>GROSS</u>	NOBLE GAS		ATIONS VIA I	EBERLINE CO	ONTROL
	Eberli	ne Control Te	CAUTI rminal A or B		for Unit 1 only	<i>.</i>
Ent	er the follo	owing sequen	ce on the key	pad for each a	applicable cha	nnel numbe
Α.	Press	10 MIN HIST.				
В.	Deterr	nine the appli	cable pathway	y channel num	ber from the t	table below.
C.	Enter t require		pathway cha	nnel number (	leading zeros	not
<b>D.</b> Press ENTER (value appears in window).						
Ε.	Press	PRINT.				
F.	Press	FILE.				
G.	Press	ENTER.				
Н.	Enter	effluent monit	or data into th	e applicable F	Release Rate	Data Sheet
[					r Atmospheric e.	: Steam
				Range		
		Path	Low	Mid	Hi	
		51 . ( ) (	1-5	1-7	<u>1-9</u> 2-9	
		Plant Vent		27		
	1	ECCS - A	2-5	<u>2-7</u> 3-7		
		ECCS - A ECCS - B	2-5 3-5	3-7	3-9	
		ECCS - A ECCS - B Fuel Bidg.	2-5 3-5 4-5	<u>3-7</u> 4-7	3-9 4-9	
		ECCS - A ECCS - B	2-5 3-5	3-7	3-9	

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	CPIP	-09	51		· · · · · · · · · · · · · · · · · · ·				
		<u>GROSS</u>	NOBLE GAS CONCE MONIT	ACHMENT 3 ENTRATION ORING CON Page 1 of 1)		1, RADIATION			
	Т	he PC-1	<u>C</u> 1 Radiation Monitoring	<b>AUTION</b> g Console sup	oplies data for	Unit 2 only.			
Ι.	Use	the follo	wing keystroke seque	nce for each a	applicable cha	nnel number:			
	Α.	Press Key F8 to display Control Menu.							
	В.	Use the ARROW Key to highlight the RM-80 Utility Task under the status display.							
	C.	Press ENTER key.							
	D.	Press Key F1 to select Historical Display.							
	E.	Press Key F4 to select Graph 10 Minute.							
	F.	Determine the applicable pathway Channel Number, from the table below.							
	G.	At pro	prompt, type <b>M</b> and the Channel Number.						
	Н.	Press ENTER.							
	١.	Recor	d Top #1 reading in a	pplicable DA	rA column.				
	J.	Press	Key F10.						
	К.	Press	Key F10.						
	L.	Press	Key F1 to display All	Monitor Sche	matic.				
			Applicable Pa	thway Chann					
			Dett		Range				
		Plant Vo	Path	Low 621	Mid 622	Hi 623			
		ECCS -		601	602	603			
		ECCS -		611	612	613			
			g. (If NOT diverted)	413	N/A	N/A			
		Steamli	ne A	N/A	631	N/A			
		Steamli		N/A	632	N/A			
		Backgro	ound (Steamline)	N/A	633	N/A			

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		ATTACHMENT 4 <u>UNIT 1 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 1 of 2)						
1.	<u>lf</u> a singl for that c	e effluent monitor channel is operable and on scale, <u>Then</u> nannel. If the channel is not on-scale, do NOT use the ch	use the value annel.					
2.	and disp	<u>If</u> two effluent monitor channels for the same pathway are operable, on-scale, and display concentration values in the overlapping range, <u>Then</u> use the highest (most conservative) value.						
3.	Eberline SPING Effluent Montiors							
	<ul> <li>Used on Unit 1 Plant Vent, ECCS A &amp; B and FHB</li> </ul>							
	<ul> <li>All have 3 gas channels; low, mid and high range</li> </ul>							
	• ir	<ul> <li>Indicate "BAD" if out of instrument range, high or low</li> </ul>						
4.	Steam Generator Tube Rupture (SGTR)							
	а	se a steamline channel only if the Safeties and / or Atmos e releasing steam. Otherwise, verify alignment of Steam chaust to the Plant Vent (PV) and utilize PV effluent monit	Jet Air Ejector					
5.	Containment Isolation Signal (CIS)							
	Initiates:							
	•	Prior to Containment Pressure reaching 5 psig						
	•	When Containment Radiation is equal to or greater	than 10 r/h <b>r</b>					
	•	At a Safety Injection Actuation Signal						
	Isolates HVE 10A & B							
	•	Diales AVE TUA & D						

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	6	C	)FF-SITE	DOSE CALCU	LATION	S	17 of 81
00	EDURE NO.:	I					
	EPIP-09	1	ST	LUCIE PLANT			
			IT 1 - DAT ers, Pathy	ACHMENT 4 TA INTERPRE ways and Efflu Page 2 of 2)		nitors	
	Safety Inject	ion Actuat	ion Signa	al (SIAS)			
	• Initiate	S:					
Prior to Containment Pressure reaching 5 psig							
	•	When Pres	ssurizer Pr	ressure is equa	al to or gr	eater than	1600 psia
	<ul> <li>Isolate</li> </ul>	s HVE 10A	& B				
	Auto s	tarts HVE 6	3A & B an	d HVE 9A & B			
	Accident Type	Release I	Pathway	Fans	Commer		
	LOCA	Plant	Vent	6 & 10		secure on SIA	
		ECO		9			n SIAS / CIS
	SGTR Plant Vent		N 7 1				
	SGTR			6 & 10		or aligned to F	
		Atmos	phere	N/A		nps and Safe	
	FUEL HANDLING	Atmos FHB S	phere Stack	N/A 15, 16 & 17			
	FUEL HANDLING CASK DROP	Atmos FHB S FHB S	phere Stack Stack	N/A 15, 16 & 17 15, 16 & 17			
	FUEL HANDLING	Atmos FHB S	phere Stack Stack	N/A 15, 16 & 17			
	FUEL HANDLING CASK DROP	Atmos FHB S FHB S	phere Stack Stack	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min -	Atm. Dun	Normal (n	ties Open
	FUEL HANDLING CASK DROP WGDTR	Atmos FHB S FHB S Plant Channel	phere Stack Stack Vent	N/A 15, 16 & 17 15, 16 & 17 6 & 10	Atm. Dun	Normal (n	ties Open on-emergency) teading E-07
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor	Atmos FHB S FHB S Plant Channel #	phere Stack Stack Vent <b>Units</b>	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0	Atm. Dun max) DE-02 DE+02	Normal (n	ties Open oon-emergency) teading E-07 E-04
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR	Atmos FHB S FHB S Plant Channel # 01-05	phere Stack Stack Vent <b>Units</b> µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+05	Normal (n	ties Open ties Open con-emergency) ceading E-07 E-04 E-01
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR	Atmos FHB 5 FHB 5 Plant <b>Channel</b> # 01-05 01-07 01-09 58	phere Stack Stack Vent Units μCi/cc μCi/cc μCi/cc r/hr	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07	Normal (n	ties Open ties O
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - B	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59	phere Stack Stack Vent Units μCi/cc μCi/cc μCi/cc r/hr r/hr	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+07	Normal (n	ties Open ties Open ties Open ties ties ties ties ties ties ties ties
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52	phere Stack Stack Vent Units μCi/cc μCi/cc μCi/cc r/hr r/hr mr/hr	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+05 DE+07 DE+07 DE+07 DE+07 DE+05	Normal (n	ties Open ties Open con-emergency) ceading E-07 E-04 E-01 E-01 E-01 E-01 E+00
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - B	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52 52 53	phere Stack Stack Vent Units μCi/cc μCi/cc μCi/cc r/hr r/hr mr/hr mr/hr	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+05 DE+07 DE+07 DE+07 DE+05 DE+05 DE+05	Normal (n	ties Open ties Open con-emergency ceading E-07 E-04 E-01 E-01 E-01 E-01 E+00 E+00 E+00
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - B ECCS - A - LR	Atmos FHB 5 FHB 5 Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05	phere Stack Stack Vent Units μCi/cc μCi/cc μCi/cc r/hr r/hr mr/hr mr/hr μCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+07 - 6.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+07 DE+07 DE+05 DE+05 DE+05 DE+02	Normal (n	ties Open ties Open con-emergency) eading E-07 E-04 E-01 E-01 E-01 E-01 E+00 E+00 E-07
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - B ECCS - A - LR - MR	Atmos FHB 5 FHB 5 Plant <b>Channel</b> # 01-05 01-07 01-09 58 59 52 53 02-05 02-07	phere Stack Stack Vent Units μCi/cc μCi/cc r/hr r/hr mr/hr mr/hr μCi/cc μCi/cc μCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 2.5E-02 - 4.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+07 DE+05 DE+05 DE+05 DE+05 DE+02 DE+02 DE+02	Normal (n	ties Open ties Open on-emergency eading E-07 E-04 E-01 E-01 E-01 E-01 E+00 E+00 E+00 E-07 E-04
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR	Atmos FHB 5 FHB 5 Plant <b>Channel</b> # 01-05 01-07 01-09 58 59 52 53 02-05 02-05 02-07 02-09	phere Stack Stack Vent Units µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+05 DE+02 DE+02 DE+02 DE+02 DE+05	Normal (n	ties Open ties Open con-emergency eading E-07 E-04 E-01 E-01 E-01 E-01 E+00 E+00 E+00 E+00 E-07 E-04 E-01
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR	Atmos FHB 5 FHB 5 Plant <b>Channel</b> # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05	phere Stack Stack Vent Units µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 0.0 1.0E+00 - 0.0	Atm. Dun max) DE-02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02	Normal (n	ties Open ties Open on-emergency eading E-07 E-04 E-01 E-01 E-01 E-01 E+00 E+00 E+00 E+00 E-07 E-04 E-01 E-01 E-07
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07	phere Stack Stack Vent Units µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 2.5E-02 - 4.0 1.0E-07 - 6.0 2.5E-02 - 4.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+07 DE+07 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02	Normal (n	ties Open ties Open on-emergency Eeading E-07 E-04 E-01 E-01 E-01 E+00 E+00 E+00 E+00 E-07 E-04 E-01 E-07 E-04
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - B Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09	phere Stack Stack Vent Units µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 0.0 1.0E+00 - 0.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+05	Normal (n	ties Open ties Open on-emergency eading E-07 E-04 E-01 E-01 E-01 E-01 E-01 E-01 E-07 E-04 E-07 E-04 E-07 E-04 E-07 E-04 E-01
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR Steamline - A	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09 05-01	phere Stack Stack Vent Units µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+05 DE+02 DE+03 DE+04	Normal (n	ties Open ties Open con-emergency eading E-07 E-04 E-01 E-01 E-01 E-01 E-01 E-00 E+00 E+00 E-07 E-04 E-01 E-07 E-04 E-01 E-01 E-01 E-02
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR Steamline - A Steamline - B	Atmos FHB S FHB S Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09 05-01 05-02	phere Stack Stack Vent Units µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+07 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+05 DE+02 DE+05 DE+05 DE+05 DE+02 DE+05 DE+0	Normal (n	ties Open ties Open
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR Steamline - A Steamline - B Fuel Bldg LR	Atmos FHB 5 FHB 5 Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09 05-01 05-02 04-05	phere Stack Stack Vent Units µCi/cc µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 1.0E-07 - 6.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+04 DE+04 DE+04 DE+02	Normal (n	ties Open ties Open
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - A B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR Steamline - A Steamline - B Fuel Bldg LR - MR	Atmos FHB 5 FHB 5 Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09 03-05 03-07 03-09 05-01 05-02 04-05 04-07	phere Stack Stack Vent Units µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-01 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-07 - 6.0 1.0E-07 - 6.0 1.0E-07 - 6.0 1.0E-07 - 6.0 1.0E-07 - 6.0 1.0E-01 - 1.0 1.0E-07 - 6.0 1.0E-01 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-07 - 6.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-02 - 4.0 1.0E-01 - 1.0 1.0E-01 - 1.0 1.0E-02 - 4.0 1.0E-01 - 1.0 1.0E-02 - 4.0 1.0E-01 - 1.0 1.0E-02 - 4.0 1.0E-02 - 4.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+02 DE+04 DE+04 DE+04 DE+02 DE+05 DE+02 DE+05 DE+07 DE+05 DE+02 DE+05 DE+07 DE+05 DE+02 DE+05 DE+02 DE+05 DE+07 DE+05 DE+02 DE+05 DE+02 DE+05 DE+07 DE+05 DE+02 DE+05 DE+02 DE+05 DE+05 DE+05 DE+05 DE+05 DE+02 DE+05 DE+05 DE+05 DE+05 DE+02 DE+05 DE+05 DE+05 DE+02 DE+05 DE+05 DE+05 DE+02 DE+05 DE+0	Normal (n	ties Open ties Open ti
	FUEL HANDLING CASK DROP WGDTR Effluent Monitor Plant Vent - LR - MR - HR CHRRM - A CHRRM - A CHRRM - B Post LOCA - A Post LOCA - A Post LOCA - B ECCS - A - LR - MR - HR ECCS - B - LR - MR - HR Steamline - A Steamline - B Fuel Bldg LR	Atmos FHB 5 FHB 5 Plant Channel # 01-05 01-07 01-09 58 59 52 53 02-05 02-07 02-09 03-05 03-07 03-09 05-01 05-02 04-05	phere Stack Stack Vent Units µCi/cc µCi/cc µCi/cc r/hr r/hr mr/hr mr/hr µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc µCi/cc	N/A 15, 16 & 17 15, 16 & 17 6 & 10 Scale (min - 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 2.5E-02 - 4.0 1.0E+00 - 1.0 1.0E+00 - 1.0 1.0E-07 - 6.0 1.0E-07 - 6.0	Atm. Dun max) DE-02 DE+02 DE+02 DE+05 DE+07 DE+05 DE+05 DE+02 DE+05 DE+02 DE+02 DE+05 DE+05 DE+05 DE+05 DE+02 DE+05 DE+07 DE+02 DE+05 DE+07 DE+02 DE+02 DE+05 DE+07 DE+02 DE+05 DE+07 DE+02 DE+05 DE+07 DE+02 DE+05 DE+07 DE+02 DE+05 DE+05 DE+07 DE+05 DE+02 DE+05 DE+05 DE+05 DE+02 DE+05 DE+05 DE+02 DE+05 DE+05 DE+05 DE+02 DE+05 DE+0	Normal (n	ties Open ties Open

for that chan If two effluen and display c (most conser	PROCEDURE TITLE: OFF-SITE DOSE CALCULATIONS ST. LUCIE PLANT ATTACHMENT 5 <u>UNIT 2 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 1 of 3) luent monitor channel is operable and on scale, <u>Then</u> in hel. If the channel is not on-scale, do not use the char t monitor channels for the same pathway are operable concentration values in the overlapping range, <u>Then</u> us vative) value.	nnel. , on-scale,					
JRE NO.: PIP-09 for that chan If two effluen and display c (most conser	ST. LUCIE PLANT ATTACHMENT 5 <u>UNIT 2 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 1 of 3) luent monitor channel is operable and on scale, <u>Then</u> hel. If the channel is not on-scale, do not use the char t monitor channels for the same pathway are operable concentration values in the overlapping range, <u>Then</u> use	use the value nnel. , on-scale,					
<u>If</u> a single eff for that chan If two effluen and display c (most conser	ATTACHMENT 5 <u>UNIT 2 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 1 of 3) luent monitor channel is operable and on scale, <u>Then</u> hel. If the channel is not on-scale, do not use the char t monitor channels for the same pathway are operable concentration values in the overlapping range, <u>Then</u> us	nnel. , on-scale,					
for that chan If two effluen and display c (most conser	<u>UNIT 2 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 1 of 3) luent monitor channel is operable and on scale, <u>Then</u> hel. If the channel is not on-scale, do not use the char t monitor channels for the same pathway are operable concentration values in the overlapping range, <u>Then</u> us	nnel. , on-scale,					
for that chan If two effluen and display c (most conser	nel. If the channel is not on-scale, do not use the char t monitor channels for the same pathway are operable concentration values in the overlapping range, <u>Then</u> us	nnel. , on-scale,					
and display c (most conser	concentration values in the overlapping range, <u>Then</u> us	, on-scale, se the highest					
Unit 2 Efflue							
	ent Monitor channels 604, 614 and 624						
<ul> <li>All provide values in μCi/sec that should not be used for dose calculations</li> </ul>							
• These	hese channels should not be used to identify or validate a release						
Wide Range Gas Monitor (WRGM) Effluent Monitors							
• Used	on Unit 2 PV and ECCS A & B						
• Each	monitor has three (3) gas channels; low, mid and high	range					
<ul> <li>Each monitor uses a 2 sample pump system; the LOW range gas channel utilizes a pump system which is independent of the MID and HIGH range gas channels pump system</li> </ul>							
once	the alert or high alarm occurs, it will not occur again, re	n channel; egardless of					
	<ul> <li>Wide Range</li> <li>Used</li> <li>Each</li> <li>Each utilize gas cl</li> <li>All thr once</li> </ul>	<ul> <li>Wide Range Gas Monitor (WRGM) Effluent Monitors</li> <li>Used on Unit 2 PV and ECCS A &amp; B</li> <li>Each monitor has three (3) gas channels; low, mid and high</li> <li>Each monitor uses a 2 sample pump system; the LOW rang utilizes a pump system which is independent of the MID and</li> </ul>					

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			ATTACHMENT 5 <u>UNIT 2 - DATA INTERPRETATION</u> Parameters, Pathways and Effluent Monitors (Page 2 of 3)					
5.	SGTF	R						
	•	are rel	steamline channel only if the Safeties and / or Atmo leasing steam. Otherwise, verify alignment of Stear ist to the PV and utilize PV effluent monitor.	ospheric Dumps n Jet Air Ejector				
	•	<ul> <li>Steamline monitors on Unit 2 must be background corrected prior to use in the Release Rate calculation table. Use NET value (i.e., Channel - Background).</li> </ul>						
			Channel 631 (S/G "A") = 12 mr/hr Channel 632 (S/G "B") = 2.2 mr/hr Channel 633 (Bkgd) = 2.0 mr/hr NET Value for S/G "A" = 10 mr/hr NET Value for S/G "B" = 0.2 mr/hr					
6.	Fuel	Handliı	ng Building (FHB) Pathway					
	•	condit	r alignment of the FHB exhaust system. During a hig tion in the Unit 2 FHB, exhaust may be diverted to th ng and thus routed to the PV for discharge.	gh radiation ne Shield				
7.	CIS							
	•	Initiat	es:					
		•	Prior to Containment Pressure reaching 3.5 psig					
		•	When Containment Radiation is equal to or greate	er than 10 r/hr				
		•	At a SIAS					
	•	Isolat	tes HVE 10A & B					
	•		tes HVE 10A & B starts HVE 6A & B and HVE 9A & B					
	•							

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	6	OFF-SITE DOSE CALCULATIONS					20 of 81
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			<u>T 2 - DAT</u> rs, Pathw	ACHMENT 5 A INTERPRE ays and Efflu age 3 of 3)		itors	
8.	SIAS						
	• Initiate	S:					
-	•	Prior to Cor	ntainment	Pressure read	ching 3.5	psig	
	• When Pressurizer Pressure is equal to or greater than 1736 psia						
	• Isolate	es HVE 10A	& B				
	Auto s	tarts HVE 6	A & B and	HVE 9A & B			
	Accident Type	Release P	athway	Fans			
	LOCA	Plant V		6 & 10	10 Fans secure on SIAS / CIS		
	·	ECC		9	6 & 9 fans auto start on SIAS / C		
	SGTR	Plant V		6 & 10	Air Ejector aligned to PV		
		Atmosp		N/A 15, 16 & 17	Atm. Dumps and Safeties Open Divert to Shield Bldg. (PV) on Hill		
	FUEL HANDLING	FHB S Plant		6 & 10			
	CASK DROP	FHB S		15, 16 & 17	Divert to Shield Bldg. (PV) on Hi R		(PV) on Hi Rad
	0/10/11 2/10/1	Piant		6 & 10	- · · ·		
	WGDTR	Plant		6 & 10			
	<u></u>	•					
	Effluent Monitor	Channel #	Units	Scale (min	- max)		on-emergency) leading
	Plant Vent - LR	621	μCi/cc	1.0E-07 - 1.0E-01			E-07
	- MR	622	μCi/cc	1.2E-03 - 1.	2E+03		N/A
	- HR	623	μCi/cc	1.0E-01 - 1.			N/A
	CHRRM - A	40	r/hr	1.0E+00 - 1			E+00
	CHRRM - B	41	r/hr	1.0E+00 - 1			E+00
	Post LOCA - A	38	mr/hr	1.0E+01 - 1			E+01
	Post LOCA - B	39	mr/hr	1.0E+01 - 1	· · · · · · · · · · · · · · · · · · ·		E+01 E-07
	ECCS - A - LR	601	μCi/cc	1.0E-07 - 1 1.2E-03 - 1			N/A
	- MR	602 603	μCi/cc	1.0E-01 - 1			N/A
	- HR ECCS - B - LR	611	μCi/cc μCi/cc	1.0E-07 - 1			E-07
	ECCS-B-LR - MR	612	μCi/cc μCi/cc	1.2E-03 - 1			N/A
	- HR	613	μCi/cc μCi/cc	1.0E-01 - 1			N/A
	Steamline - A	631	mr/hr	1.0E+00 - 1			E-01
	Steamline - B	632	mr/hr	1.0E+00 - 1			E-01
	Steamline Bkg.	633	mr/hr	1.0E+00 - 1			E-01
				the second se			E 07
	Fuel Bldg LR	413	μCi/cc	1.0E-07 - 1	.UE-UT		E-07 E+01

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#### ATTACHMENT 6 CLASS A MODEL DOSE CALCULATION (Page 1 of 7)

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#### Discussion

The computer-based Class A Model dose calculation program utilizes inputs and processes similar to the manual procedure. However, refinements in the Class A Model allow for a wider range of input information and mathematical complexity. These instructions provide the guidance for using the Class A Model to derive calculated off-site doses in a manner similar to that discussed for the manual calculation. Not all input screens available in the computer program are needed by the general user and are, therefore not discussed in these instructions.

The Class A Model provides two (2) types of dose calculations. The "Actual Dose Calculation" is accomplished in advection steps of fifteen (15) or thirty (30) minutes and is a cumulative dose determination. The "Forecast Dose Calculation" is a projected dose determination based on a given time period such as two (2) hours. Personnel having expertise in dose calculation methodology may utilize the advanced methods available through the screen driven menus to modify and refine these basic calculations.

#### NOTE

If both the Technical Support Center (TSC) and Emergency Operations Facility (EOF) are operational, dose assessment personnel at both locations should coordinate their efforts as a self-check to assure accuracy.

#### Computer Startup

- 1. Ensure the uninterruptible power supply to the computer is energized to prevent data loss if a power interruption occurs.
- 2. Ensure that the floppy disk drive is empty.
- **3.** Turn on the display monitor, the printer and the computer.

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4.	Follo	wing sys	ATTACHMENT 6 <u>CLASS A MODEL DOSE CALCULATION</u> (Page 2 of 7) stem startup, check the date and time on the computer.						
	comp	outer. W nistrator	<b>NOTE</b> e date and time should be done prior to using a stand-a /hen using a computer on the LAN, contact a LAN r if the date and/or time need to be changed. dose calculation program starts, <u>Then</u> the date and time						
	,		per left of the monitor.						
	В.	Correc	prrect the date and time as necessary (time should match ERDADS).						
		Chang	hanging the date/time.						
		1.	<ul> <li>Depress Function Key F5 (to quit the Class A software).</li> </ul>						
		2.	Туре "Ү".						
		3.	Depress the "ENTER" key.						
		4.	At the system prompt, type "TIME" (or "DATE" as requ	uired).					
		5.	Depress the "ENTER" key.						
		6.	Type correct data and depress "ENTER" key.						
	C.	<u>If</u> the check	dose calculation program does not start, <u>Then</u> the date ed at the system prompt using Steps 4-6 above.	and time is					
5.			mputer displays the system prompt, and has correct da epress "ENTER" key to return to Class A software.	ate/time, type					
Pre-u	use QC	Check							
1.	follo	wing the	nanpower permits, <u>Then</u> perform a pre-use verification instructions in the FPL Class A Emergency Offsite Dos er Guide.	QC check se Calc					
2.			etion of the pre-use QC check, exit to the Main Menu, a Performing Calculations, below.	and proceed					

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	If editing is r instructions.	<u>NOTE</u> equired, edit the information in accordance with the disp	blayed
Perfor	ming Calcula	tions	
		CAUTION	
		Advection time step" after a calculation step can cause the	ne Class
	A model to g	generate errors.	
1.	<u>When</u> the pl F1-Unit 1 or	ant site menu is displayed, <u>Then</u> depress the Function F F2-Unit 2) to select the affected St. Lucie Plant Unit.	Key (i.e.,
2.		rogram asks, "Is this an exercise [Y/N]?", <u>Then</u> answer a s the "ENTER" key.	appropriately
3.	<u>When</u> the M calculations	lain Menu is displayed, <u>Then</u> select the F1 Function Key	r to start
4.	previous do	pted by the program, "Warning - Start calculations will d se values. OK [Y/N]?", <u>Then</u> depress "Y" and the "ENT he data files.	estroy ER" key to
	[	NOTE	]
	1. Thirty m accident used.	inute advection steps are normally used except for fuel its, for which fifteen minutes advection time steps should	handling be
	2. Once ad the prog	lvection time is selected it should not be changed while ram to prevent generating errors.	running
I			

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6.	<u>When</u> the cor advection tim accept the inj	rect type of accident, reactor trip time, release start tim e step have been entered, <u>Then</u> depress the F5 Function puts.	e, and the on Key to
7.		out Menu is displayed, <u>Then</u> depress the F1 Function Ko ogical Data menu.	ey to bring up
8.	sheet corresp	eteorological Data Summary Menu is displayed, <u>Select</u> bonding to the source of the data (i.e., Site Tower (ERD port (NOAA, NWS), Default).	the data ADS, chart
9.	<u>Enter</u> the me Function Key	teorological data gathered  in the format shown using the second structure of the second structure of the second second structure of the second second second structure of the second second second structure of the second s	ne displayed /.
10.		essary meteorological data has been entered, <u>Then</u> de to accept the data and go to the Meteorological data S	
11.	<u>Review</u> the e the data and	ntered meteorological data, <u>Depress</u> the F5 Function K <u>Then</u> return to the Input Menu.	ey to accept
12.		out Menu is displayed, <u>Then</u> depress the F2 Function K Ferm Data menu.	ey to bring up
13.		nt type is a LOCA or SGTR, <u>Respond</u> appropriately to the tot not be the term of the second	he question
14.		nt type is a LOCA, <u>Respond</u> appropriately to the questic wal System Status.	on about the
15.	correspondir	ource Term Summary Menu is displayed, <u>Select</u> the dat ng to the source of the data (i.e., Grab Sampling, Efflue st LOCA Monitors, Default).	
16.	<u>Enter</u> the so Function Ke	urce term data gathered in the format shown using the open set of the set of	displayed y.

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17.	<u>When</u> the inp the appropria	ut of source term information has been completed, <u>The</u> te Function Key to accept the data and return to the Inp	<u>n</u> depress out Menu.
18.	review a sum	k of data accuracy is needed, <u>Then</u> depress the F3 Fur mary of the meteorological and source term data, <u>Depr</u> to print or the F2 Function Key to exit.	nction Key to <u>ess</u> the F1
19.	<u>If</u> the meteoro 12 above, res	blogical or source term data need to be revised, <u>Go to</u> s spectively.	step 7 or step
20.	<u>Depress</u> the [ [Y/N]?", and a	F4 Function Key at the screen prompt, "Proceed with ca answer "Y", <u>Depress</u> the "ENTER" key to begin calculat	alculations tions.
	"C	<u>NOTE</u> RT Displays" may be used instead of "Print Reports".	
21.	<u>When</u> the Ou "Print Report	Itput Menu is displayed, <u>Then</u> depress the F3 Function s".	Key to select
22.		nted Report Menu is displayed, <u>Then</u> depress the displ s to select the desired reports.	ayed
	proceeding v	<b>CAUTION</b> the printer and print buffer are on line and ready for use with the printing task. If either device is not ready for us I exit the dose calculation program.	e prior to se, the
23.	<u>Depress</u> any	key to begin printing.	
24.	<u>When</u> the Ou the Run Mod	utput Menu is displayed, <u>Then</u> depress the F6 Function le Menu.	Key to select
25.	select the Ac (cumulative of	In Mode Menu is displayed, <u>Then</u> depress the F1 Func- ctual Calculation Mode and perform the next advection s dose calculation) <u>or</u> depress the F2 Function Key to sel loulation Mode.	step
		(	

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		ATTACHMENT 6 CLASS A MODEL DOSE CALCULATION (Page 6 of 7)							
		NATE							
	1. Forecast	<u>NOTE</u> periods are typically two (2) hours.							
		doses assume release rates and meteorological condit Instant during the forecasting period chosen.	ions						
		the reasonableness of assuming constant meteorologics and release rates for forecasting periods exceeding to							
<b>.</b>	Edit the fored	cast period as desired using the displayed instructions.							
	Calculation N	ecast period has been accepted, the Input Menu: Fore lode will be displayed, <u>Then</u> depress the displayed Fur r edit the inputs as necessary.	ecast nction Keys to						
	calculations,	uts are acceptable, <u>Then</u> depress the F4 Function Key at the screen prompt, "Proceed with calculations [Y/N] and <u>Depress</u> the "ENTER" key to begin calculations.	to perform ?", and						
	NOTE								
	"CRT Displays may be used instead of "Print Reports".								
).	<u>When</u> the Output Menu - Forecast Calculations mode is displayed, <u>Then</u> depres the F3 Function Key to select "Print Reports".								
).		inted Report Menu is displayed, <u>Then</u> depress the disp ys to select the desired reports.	layed						

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		L,		<b>I</b>							
			TTACHMENT 6								
		<u>CLASS A MO</u>	DEL DOSE CALCULATION								
			(Page 7 of 7)								
	CAUTION										
	Т	ne printer and print	buffer must be on line and read	dy!							
			NOTE								
	1. The Emergency Coordinator should be provided with a printout of actual calculated doses, Protective Action Recommendations (PARs), and as										
		l doses, Protective		rs), and as							
	requested										
			r should be updated every thirty	<sup>r</sup> minutes							
	during pe	riods of actual or p	otential off-site release.								
31.	When the re-	orte have been pri	inted, <u>Then</u> return to the Run M	ode Menu to							
	update inform	nation and repeat t	the dose calculation process as	needed due to							
		or meteorological c									
<b>) )</b>	Depress the	E1 Eurotion Koy fo	or the Actual Calculation Mode	or the E2 Function							
32.	<u>Depress</u> the Key for the F	orecast Calculation	n Mode <u>or</u> the F3 Function Key	to return to the							
	Main Menu a										
			d Course Data diaplays for all	wheeguent							
33.	Review the s	Summary of Met an	nd Source Data displays for all s to not change so that they can b	be reviewed and							
	calculations even if the inputs do not change so that they can be reviewed and accepted. Also ensure that the Noble Gas Reduction Factor is reset to its properties of the transmission of transmi										
	value.										
		END	OF ATTACHMENT 6								

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			ATTACHMENT 7 <u>METEOROLOGICAL DATA</u> (Page 1 of 10)						
1.	Obtai	in Meteo	prological Data						
	Α.	presei data ir	lete applicable pages from this attachment. Three methet inted in preferential order. To supplement / complete an in the chosen method, use one or both of the other methe inds are to be used in the order presented.	y missing					
	13		<u>NOTE</u> d the Unit 1 Control Room and Site Met. Tower chart re ninute average data.	corders					
		1.	Method 1 - Site Met Tower						
			Provides data from the primary and alternate locations on the Site Meteorological Tower. Use Method 1.						
		2.	Method 2 - NOAA / NWS						
			Provides meteorological observations taken at the Nat Oceanic Atmospheric Administration / National Weath Melbourne, Fl. Use Method 2.	ional er Service in					
		3.	Method 3 - Default Values						
			Daytime and nighttime default values are listed in Met	hod 3.					
	В.	Selec	t Dose Calculation Worksheet						
		1.	The Worksheet to be used for Dose Calculations is de part of completing one of the Meteorological Data Met						
		2.	The Worksheet will be used to determine doses after a Rate Data Sheet is completed.	a Release					

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			ATTACHMENT 7 METEOROLOGICAL DATA METHOD 1 (Page 2 of 10) (Pag	• SITE TOWER e 1 of 3)
1.	Gathe	er Meteo	prological Data:	
	Α.	Date 8	Time of meteorological observations/	
	time, Shacl inves	i.e., cha k should tigated.	<b><u>CAUTION</u></b> wind direction and Delta temperature values should va art recorders in the Unit 1 Control Room and A1A Site 1 d NOT be straight-lining. Unchanging data should be If initial efforts to correct straight-lining fail, alternate s be used.	Tower
	В.	Enter	10 Meter (alternate 57.9 Meter) WIND SPEED:	mph
	C.	Enter	10 Meter (alternate 57.9 Meter) WIND DIRECTION (fro	om)deg.
	D.	Enter	Delta-T (displayed by ERDADS)deg. F	
	Ε.	¶5 <u>I</u>	f Delta T is not available from ERDADS, <u>Then</u> :	
		1.	Enter the difference: 57.9 meter temperature minus 1 temperature:	0 meter
		2.	Multiply that difference by 1.044:	
	F.		orming Class A Model dose calculation, <u>Then</u> use the a nation during meteorological data entry.	above noted
	G.		forming manual dose calculations, <u>Then</u> proceed to Stenment.	p 2 of this

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		ATTACHMENT 7 METEOROLOGICAL DATA METHOD 1 - SITE TOWE										
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2.	Determine S	TABILITY CL	ASS									
		Delta-T (∆T) ity Class	and the guide t	elow, detern	nine and enter	the						
	Γ	lf DEL	TA-T is	Then Stal	oility Class is							
		less than or	equal to -1.7		Α							
	Γ	-1.6	to -1.5		В							
	Γ		1.4		С							
		-1.3	to -0.5		D							
		-0.4	to +1.4		E							
		+1.5	to +3.6	F								
3.		FFECTED SI		circle the <b>AF</b>	G FECTED SEC	CTORS.						
3.		FFECTED SI	ECTORS low, select and			CTORS.						
3.	<b>A</b> . Using	FFECTED SI	ECTORS low, select and <u>CAUTIC</u>	<u>DN</u>	FECTED SEC							
3.	A. Using Wind direct	FFECTED SI the guide be on indicated a	ECTORS low, select and <u>CAUTIC</u> as greater than	<u>DN</u> 359° should	FECTED SEC							
3.	A. Using Wind direct	FFECTED SI the guide be on indicated a	ECTORS low, select and <u>CAUTIC</u>	<u>DN</u> 359° should	FECTED SEC							
3.	A. Using Wind direct	FFECTED SI the guide be on indicated a	ECTORS low, select and <u>CAUTIC</u> as greater than	<b>DN</b> 359° should tion.	FECTED SEC							
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the with</li> </ul>	AFFECTED SI on indicated a 360° from the	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the	<u>DN</u> 359° should tion. edge of two	FECTED SEC	ру 11°, 33°,						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> </ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should	<u>DN</u> 359° should tion. edge of two be added to	FECTED SEC be corrected b sectors (e.g., 1 the Affected 3	by 11°, 33°, Sectors.						
3.	<ul> <li>A. Using</li> <li>Wind direction</li> <li>subtracting</li> <li>If the with 56°, etc. For example.</li> </ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona mple, if the wir	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should and direction is f	<u>DN</u> 359° should tion. edge of two be added to	FECTED SEC be corrected b sectors (e.g., 1 the Affected 3	by 11°, 33°, Sectors.						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be</li> </ul>	AFFECTED SE on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should ad direction is find	DN 359° should tion. edge of two be added to rom 78°, ther	FECTED SEC be corrected b sectors (e.g., 1 the Affected 3	by 11°, 33°, Sectors.						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be</li> </ul>	AFFECTED SE on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should and direction is f	DN 359° should tion. edge of two be added to rom 78°, ther	FECTED SEC be corrected b sectors (e.g., 1 the Affected 3	by 11°, 33°, Sectors.						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be</li> </ul>	AFFECTED SE on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should ad direction is find	<u>DN</u> 359° should tion. edge of two be added to rom 78°, ther r "O" or "I". Affected	FECTED SEC be corrected k sectors (e.g., 7 the Affected s the affected Wind	by 11°, 33°, Sectors. sectors Affected						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be the shou</li></ul>	AFFECTED SE on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and d confusion, th Affected <u>Sectors</u>	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direct <u>NOTE</u> directly on the al sector should and direction is find I P. here is no secto Wind From	2N 359° should tion. edge of two be added to rom 78°, ther r "O" or "I". Affected <u>Sectors</u>	FECTED SEC be corrected b sectors (e.g., f the Affected s the affected wind From	by 11°, 33°, Sectors. sectors Affected <u>Sectors</u>						
3.	<ul> <li>A. Using</li> <li>Wind direction</li> <li>If the wind 56°, etc.</li> <li>For example should be the shou</li></ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and d confusion, th Affected <u>Sectors</u> HJK	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should and direction is fill I P. here is no secto Wind <u>From</u> 123 - 146	<u>DN</u> 359° should tion. edge of two be added to rom 78°, ther r "O" or "I". Affected <u>Sectors</u> PQR	FECTED SEC be corrected b sectors (e.g., 7 the Affected 5 the affected wind <u>From</u> 236 - 258	by 11°, 33°, Sectors. sectors Affected <u>Sectors</u> CDE						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be the should</li></ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and d confusion, th Affected <u>Sectors</u> HJK JKL	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direct <u>NOTE</u> directly on the al sector should and direction is find in P. here is no secto Wind <u>From</u> 123 - 146 146 - 168	2N 359° should tion. edge of two be added to rom 78°, then r "O" or "I". Affected Sectors PQR QRA	FECTED SEC be corrected b sectors (e.g., 7 the Affected 3 the affected 3 the affected 3 Wind <u>From</u> 236 - 258 258 - 281	by 11°, 33°, Sectors. sectors Sectors Affected <u>Sectors</u> CDE DEF						
3.	<ul> <li>A. Using</li> <li>Wind direction</li> <li>If the wind 56°, etc.</li> <li>For example should be the should</li></ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and d confusion, th Affected <u>Sectors</u> HJK JKL KLM	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direc <u>NOTE</u> directly on the al sector should ind direction is fill P. here is no secto Wind <u>From</u> 123 - 146 146 - 168 168 - 191	<u>DN</u> 359° should tion. edge of two be added to rom 78°, ther r "O" or "I". Affected <u>Sectors</u> PQR	FECTED SEC be corrected b sectors (e.g., 7 the Affected 5 the affected wind <u>From</u> 236 - 258	by 11°, 33°, Sectors. sectors Affected <u>Sectors</u> CDE						
3.	<ul> <li>A. Using</li> <li>Wind directing</li> <li>If the wind 56°, etc.</li> <li>For example should be the should</li></ul>	AFFECTED SI on indicated a 360° from the nd direction is ), an additiona mple, if the wir be L, M, N and d confusion, th Affected <u>Sectors</u> HJK JKL	ECTORS low, select and <u>CAUTIC</u> as greater than indicated direct <u>NOTE</u> directly on the al sector should and direction is find in P. here is no secto Wind <u>From</u> 123 - 146 146 - 168	<u>DN</u> 359° should tion. edge of two be added to rom 78°, then r "O" or "I". Affected <u>Sectors</u> PQR QRA RAB	FECTED SEC be corrected b sectors (e.g., 7 the Affected s the affected Wind <u>From</u> 236 - 258 258 - 281 281 - 303	by 11°, 33°, Sectors. sectors Sectors Affected <u>Sectors</u> CDE DEF EFG						

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	EPIP-	09				ST. LU	CIE PLA	ANT				
				<u>1</u>		OROLO	HMENT DGICAL 4 of 10)	DATA	METH		<u>- SITE 1</u> e 3 of 3	
4.	Check for SEA BREEZE EFFECT:											
	Only if <u>All</u> of the following conditions are met, then the Sea Breeze effect is YES											YES
	lf on	e or mo	ore con	ditions	are N	IOT met	t, then th	ne Sea	Breeze	effect	is NO	
	٠	Stab	ility Cla	ass A, E	or C	;						
	•	Time	e of day	/ 6 AM 1	to 7P	М						
	•	Winc	l Direc	tion (fro	m) is	betwee	n 0 thro	ugh EA	ST to 1	80 deg	rees	
	•					e greate ed belo	er than ⊢ w:	IISTOF	RICAL A	VERA	GE	
	JAN	FEB	MAR	APR	MA	/ JUN	JUL	AUG	SEP	ост	NOV	DEC
	69	65	69	73	76	79	80	81	81	79	74	71
5.		ect a DC	DSE C	ALCUL	ATIC		<b>KSHEE</b> worksh		n Attac	hment	9.	
	[ <del></del>											
	Stab.	Seabr		Dose Ca			Seabreez		e Calc ksheet	Stab.	Dose <u>Works</u>	
1	Class	Impa		Worksh		<u>Class</u>	Impact	<u> </u>	Koneer	D	7	
	A	YE		1		<u> </u>	VES		5	E	8	
	A	NC		2		C	YES			F	9	
	B	YE		3		С	NO		6			
	В	NC	5	4			·····	<u> </u>		G	10	
6.	Сор	y inforr	nation	to the s	elect	ed DOS		ULATI	ON WC	RKSH	EET:	
	Α.	WIN	ID DIR	ECTIO	N and	I the <b>AF</b>	FECTE	D SECI	TORS to	o line A	<b>L</b>	
	В.	WIN	ID SPE	ED to I	ine 2							
7.	This	s data s	heet is	s comple	eted,	proceed	l to relea	ase rate	e deterr	ninatio	n.	
					E	ND OF	METHO	D 1				

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	6		OFF-SITE DOSE CALCULATIONS	32 of 81				
1	DURE NO.		ST. LUCIE PLANT					
			ATTACHMENT 7 METEOROLOGICAL DATA METHOD 2 (Page 5 of 10) (Page					
1.	Gathe	er METE	EOROLOGICAL DATA:					
	Α.	phone Directo answe	OAA / National Weather Service (NWS) Melbourne Offi number is located in the St. Lucie Plant Emergency Re ory, Section 4.0, Off-site Support. When the NOAA / N ers, identify yourself as a FPL - St. Lucie Plant and obta ng information:	esponse WS person				
		1.	Date / Time of observation:/					
			Eastern Standard Time					
			(circle one)					
			Daylight Savings Time					
		2.	WIND DIRECTION (From):Degrees					
		Req	<u>NOTE</u> uest NOAA / NWS to provide wind speed in miles/hour.					
		3.	WIND SPEED:mph					
		4.	Sunrise: am Sunset: pm					
		5.	Sky Condition (circle one): Clear Scattered Overcas	t Broken				
			a. <u>If</u> sky condition is overcast or broken, <u>Then</u> enter Height <b>ft.</b>	er Ceiling				
		6.	Estimated air temperature for Ft. Pierce area	_° <b>F</b>				
		7.	If time permits, ask for a weather forecast for the area	:				
				· · · · · · · · · · · · · · · · · · ·				

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6 DCEDURE NO.:		OFF-SITE DO	FF-SITE DOSE CALCULATIONS				
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			HMENT 7				
			6 of 10)	A METHOD 2 (Page	2 of 5)		
Determir	ne STABILITY	CLASS					
<b>A</b> . D	etermine the So	olar Radiation	Characteristic				
1.	<u>If</u> Daytime	e (1 hour after	sunrise to 1 ho	ur before sunse	t), <u>Then</u> :		
			Altitude from F sing time and c	igure 1 (at the e late.	nd of this		
				acteristic on the ight and Solar A			
Day Sky	Ceiling,		Solar Altitude				
Condition	Feet	< 15 deg 15 to < 35		35 to 60 deg	> 60 deg		
Overcast	< 7000	Nil	Nil	Nil	Nil		
	7K to 16K	Weak	Weak	Weak	Slight		
	> 16000	Weak	Weak	Slight	Moderate		
Broken	< 7000	Weak	Weak	Weak	Slight		
	7K to 16K	Weak	Weak	Slight	Moderate		
	> 16000	Weak	Slight	Moderate	Strong		
Clear Scattered	not applicable	Weak	Slight	Moderate	Strong		
	not applicable . <u>If</u> NOT Da <b>a</b> . Cir	aytime, <u>Then</u> : cle the Solar I		acteristic on the			
Scattered 2	not applicable . <u>If</u> NOT Da <b>a</b> . Cir	aytime, <u>Then</u> : rcle the Solar I ing Night Sky	Radiation Char Condition and	acteristic on the	table below,		
Scattered 2 Night	not applicable . <u>If</u> NOT Da <b>a.</b> Cir usi	aytime, <u>Then</u> : rcle the Solar l ing Night Sky Ceil	Radiation Char Condition and	acteristic on the Ceiling Height.	table below,		

not applicable

not applicable

Broken

Clear or scattered

Weak Loss

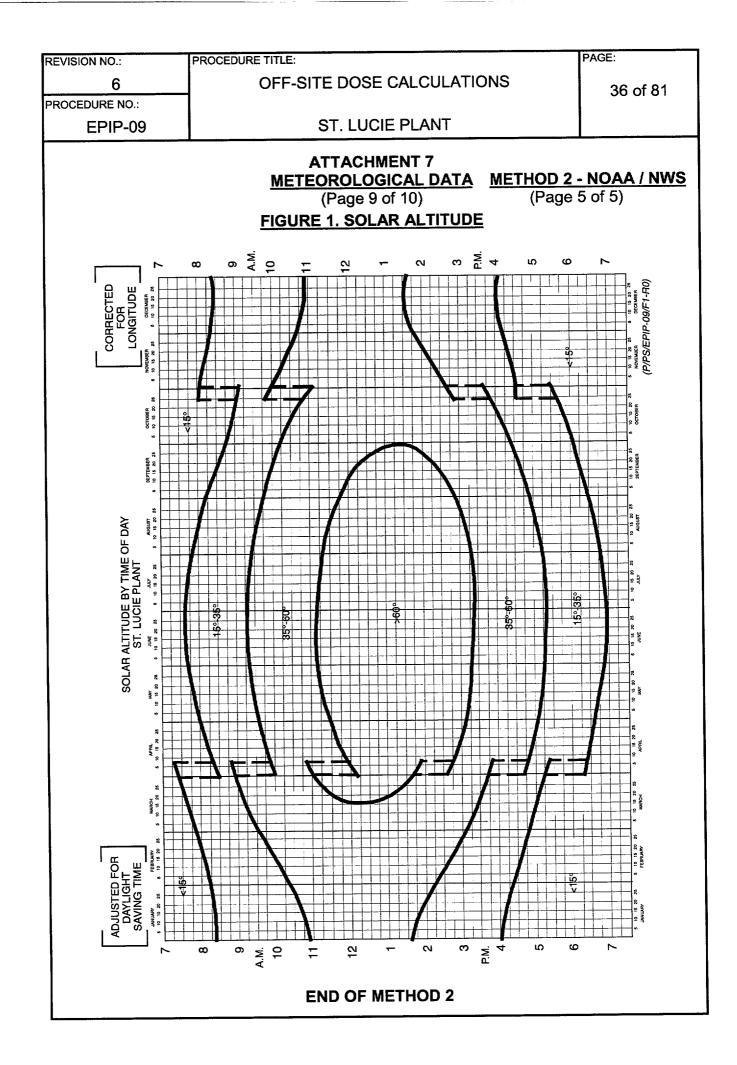
Strong Loss

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			_	ATTACH OROLO (Page 7				D 2 - NO age 3 of 5		
(continued	d)									
B. Sel	ect Si	tability C	lass							
1.	U: Ci	sing the haracter	Wind S istic, fin	peed in d in the	MPH ar table be	nd the S elow and	olar Radi d circle th	iation e Stability	Class.	
Solar	1	Wind Speed in MPH								
Radiation	0 to 1.2	>1.2 to 3.5	>3.5 - 5.8	>5.8 - 6.9	>6.9 - 8	>8 - 10.4	>10.4 - 11.5	>11.5 - 12.7	>12.7	
Strong	Α	Α	А	В	В	В	С	С	С	
Moderate	A	В	В	В	В	С	С	C	D	
Slight	В	В	С	С	С	С	С	D	D	
Weak	С	_ C	С	D	D	D	D	D	D	
Nil	D	D	D	D	D	D	D	D	D	
Weak Loss	F	F	E	E	D	D	D	D	D	
Strong Loss	G	G	F	F	<u> </u>	E	<u> </u>	D	D	
Determin <b>A.</b> Us					nd circle	the Aff	ected Se	ctors.		
				NO						
56°, e For ex	tc.), a kampl	in additio	onal sec wind dir	tor shou	uld be a	dded to	the Affec	e.g. 11°, 3 sted Secto sted secto	rs.	

• To avoid confusion, there is no sector "O" or "I".

Wind	Affected	Wind	Affected	Wind	Affected
From	Sectors	<u>From</u>	<u>Sectors</u>	From	<u>Sectors</u>
348 - 11	HJK	123 - 146	PQR	236 - 258	CDE
11 - 33	JKL	146 - 168	QRA	258 - 281	DEF
33 - 56	KLM	168 - 191	RAB	281 - 303	EFG
56 - 78	LMN	191 - 213	ABC	303 - 326	FGH
78 - 101	MNP	213 - 236	BCD	326 - 348	GHJ
101 - 123	NPQ				

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			MET	EORO	CHMENT 7 _OGICAL D e 8 of 10)	ATA MET	HOD 2 · (Page 4	- NOAA / NWS 4 of 5)				
<b>I.</b>	Chec	k for <b>SEA E</b>	BREEZE EFF	ECT								
	Only if <u>ALL</u> of the following conditions are met, then the Sea Breeze effect is YES.											
	If one or more conditions are NOT met, then the Sea Breeze effect is NO.											
	•	• Stability Class A, B or C										
	•	Time of day 6 AM to 7 PM										
	•	Wind Direction (from) is between 0 through East to 180 degrees										
	Sea	Breeze Imp	act (Yes or	No)								
5.	Sele	Select a DOSE CALCULATION WORKSHEET										
	<b>A.</b> Using the guide below, select a worksheet from Attachment 9.											
	Stab. <u>Class</u>	Seabreeze Impact	Dose Calc Worksheet	Stab. <u>Class</u>	Seabreeze Impact	Dose Calc Worksheet	Stab. <u>Class</u>	Dose Calc <u>Worksheet</u>				
	A	YES	1				D	7				
	A	NO	2	С	YES	5	E	8				
	В	YES	3	С	NO	6	F	9				
	В	NO	4				G	10				
6.	Copy information to the selected DOSE CALCULATION WORKSHEET:											
<b>v</b> .				From line 1A2, copy the <b>WIND DIRECTION</b> to line A of Dose Calculation Worksheet.								
0.	Α.			he WIN	D DIRECTIO	<b>ON</b> to line A	of Dose	Calculation				
0.	А. В.	Workshe	et. e 1A3, copy <b>\</b>									
		Workshe From line Workshe From line	et. e 1A3, copy <b>\</b>	WIND S e AFFE	PEED in mp	oh to line 2 oʻ	f Dose (	Calculation				
7.	В. С.	Workshe From line Workshe From line Calculati	et. et. et. et. copy th	WIND S e AFFE et.	PEED in mp	oh to line 2 o <sup>.</sup> T <b>ORS</b> to line	f Dose ( A of D	Calculation ose				
	В. С.	Workshe From line Workshe From line Calculati	et. et. et. e3A, copy th on Workshee	WIND S e AFFE et.	PEED in mp	oh to line 2 o <sup>.</sup> T <b>ORS</b> to line	f Dose ( A of D	Calculation ose				



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ROCI								
	EPIP-	09	ST. LUCIE PLANT					
				<b>) 3 - DEFAUL<sup>-</sup></b> ige 1 of 1)				
		method vailable	<u>NOTE</u> is to be used only if Site Met Tower and NOAA/NWS d	ata are				
1.	<u>lf</u> Da	ytime Ho	ours (1 hour after sunrise to 1 hour before sunset), <u>The</u>	<u>n</u> :				
	Α.	Select	DOSE CALCULATION WORKSHEET 7.					
	<b>B.</b> Enter <b>AFFECTED SECTORS</b> = ALL in line A.							
	С.	Circle	Default in line B.					
<b>D.</b> Enter <b>WIND SPEED</b> = 5 mph in line 2.								
2.	<u>If</u> Not Daytime, <u>Then</u> :							
	Α.	Selec	DOSE CALCULATION WORKSHEET 9.					
	В.	Enter	AFFECTED SECTORS = ALL in line A.					
	C.	Circle	Default in line B.					
	D.	Enter	WIND SPEED = 3 mph in line 2.					
	This	data sh	eet is completed, proceed to release rate determination	1.				
			END OF METHOD 3					
			END OF ATTACHMENT 7					

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	DURE NO.:	OFF-SITE DOSE CALCULATIONS	38 of 81							
	EPIP-09	ST. LUCIE PLANT								
		ATTACHMENT 8 <u>RELEASE RATE DATA</u> (Page 1 of 23)								
		<u>NOTE</u> are in a declared emergency and both units have or site release rate is the sum of both units' release rat								
1.	Determine S	Site Release Rate								
<ul> <li>A. Complete applicable Data Sheet from this attachment, as appropriate applicable Data Sheet from this attachment, as appropriate ach affected unit and accident type. The five techniques are list in preferential order. Use the next techniques, in order, to supply missing data. Indicate the technique(s) used on the selected WORKSHEET from Attachment 9.</li> </ul>										
	available in not be delay method may	ling is the primary method. It is unlikely that results we the early phases of an emergency. Dose assessme yed waiting for these results. Therefore, the Effluent y be used initially. Dose assessment using grab sam performed as soon as that data is available. CHEMISTRY GRAB SAMPLING - Primary Method	nt should Monitor nple data							
		types For Unit 1, use Data Sheet 1A.								
		For Unit 2, use Data Sheet 2A.								
	2.									
		For Unit 1, use Data Sheet 1B.								
		For Unit 2, use Data Sheet 2B.								
	3.	<b>3.</b> CONTAINMENT HIGH RANGE RADIATION MONITOR - Alternate for LOCA only, when techniques 1 and 2 are unavailable.								

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PROC	EDURE N	0.:						
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			ATTACHMENT 8 <u>RELEASE RATE DATA</u> (Page 2 of 23)					
1. A. (continued)								
	<ol> <li>POST LOCA MONITORS - Alternate for LOCA only, whe techniques 1, 2 and 3 are unavailable.</li> </ol>							
			Evaluate Post LOCA Monitor readings by using Data S	Sheet 4.				
	5. DEFAULT - Alternate for all accidents, only if no other technique is available.							
			For Default calculations for all accidents, use Data She	eet 5.				

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				RELEASE	HMENT 8 RATE DATA 3 of 23)	<u>UNIT 1 G</u>	SHEET 1A RAB SAMP ge 1 of 4)		
	Gather		DENT D	ATA:					
	Α.	Date a	and time o	of data:	//				
	В.	Ask E	mergency	y Coordinator:					
		1.	Accident	t Type					
		2.	ls core o	overheating or n	nelting (circle): YE	S NO			
			a. If	YES, PF = 4.4;	If NO, PF = <b>1.0</b>				
			<b>b</b> . E	nter <b>PF</b> =					
		3.	Potentia	<b>DURATION</b> of	<sup>r</sup> release (if unknow	n, use 2):	hours		
2.	Evalua	ate apr	licable <b>R</b>		IWAY(S):				
					. ,				
	А.				ct release pathway	in the follow	ving table.		
	А. В.	Based		dent Type, sele		in the follow	ing table.		
		Based Check	d on Accid	dent Type, sele	ct release pathway	in the follow	ving table.		
	В.	Based Check Add u	d on Accid	dent Type, sele fans. vs in the spaces	ct release pathway	in the follow <u>T 1-FUEL BUI</u>			
	В.	Based Check Add u	d on Accie k the ON p the flov	dent Type, sele fans. vs in the spaces	ct release pathway				
	В. С.	Based Check Add u <u>UNIT</u>	d on Accie k the ON p the flov	dent Type, sele fans. vs in the spaces <u>∕ENT</u> √on ¶₄	ct release pathway s provided. <u>UNI</u>		<u>LDING</u> √on ¶₄ SCFM 10563		
	B. C. Fan	Based Check Add u <u>UNIT</u>	d on Accie the ON p the flov <u>1-PLANT \</u>	dent Type, sele fans. vs in the spaces <u>∕ENT</u> √on ¶₄ SCFM	ct release pathway s provided. <u>UNI<sup>-</sup></u> Fan 1-HVE-15 1-HVE-16A	<u>T 1-FUEL BUI</u> New Fuel	<u>LDING</u> √on ¶₄ SCFM 10563 11385		
	B. C. Fan 1-HVE-6A	Based Check Add u <u>UNIT</u>	d on Accie the ON p the flov <u>1-PLANT \</u>	dent Type, sele fans. ws in the spaces <u>∕ENT</u> §CFM 6600 6600 950	ct release pathway s provided. <u>UNI<sup>T</sup></u> Fan 1-HVE-15 1-HVE-16A 1-HVE-16B	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool	LDING √on ¶4 SCFM 10563 11385 11385		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74	Based Check Add u <u>UNIT</u>	d on Accid the ON p the flow <u>1-PLANT \</u> nield Bldg	dent Type, sele fans. ws in the spaces <u>∕ENT</u> √on ¶₄ SCFM 6600 6600 950 950	ct release pathway s provided. Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool H&V Room	LDING √on ¶₄ SCFM 10563 11385 11385 6250		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74 1-HVE-74 1-HVE-74	Based Check Add u <u>UNIT</u>	d on Accie the ON p the flov <u>1-PLANT \</u> nield Bldg	dent Type, sele fans. ws in the spaces <u>√ENT</u> √on ¶₄ SCFM 6600 6600 950 950 t 52500	ct release pathway s provided. Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool	LDING √on ¶₄ SCFM 10563 11385 11385 6250		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74 1-HVE-84 1-HVE-84	Based Check Add u <u>UNIT</u>	d on Accid the ON p the flow <u>1-PLANT \</u> nield Bldg Purge CB Exhaust	dent Type, sele fans. ws in the spaces <u>∕ENT</u> √on ¶₄ SCFM 6600 950 950 t 52500 52500	ct release pathway s provided. Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool H&V Room Bldg. Total =	LDING √on ¶₄ SCFM 10563 11385 11385 6250		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74 1-HVE-74 1-HVE-84 1-HVE-84 1-HVE-84	Based Check Add u <u>UNIT</u> A Sh A H <sub>2</sub> A R( B A R( B) A R/	d on Accid the ON p the flow <u>1-PLANT \</u> nield Bldg	dent Type, sele fans. ws in the spaces <u>∕ENT</u> √on ¶₄ SCFM 6600 6600 950 t 950 t 52500 52500 t 52500	ct release pathway s provided. <u>UNI</u> Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17 (Add) Fuel E	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool H&V Room	<u>LDING</u> √on ¶₄ 10563 11385 11385 6250 		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74 1-HVE-84 1-HVE-84	Based Check Add u <u>UNIT</u> A Sh A H <sub>2</sub> A R( B A R( B) A R/	d on Accid the ON p the flow <u>1-PLANT \</u> nield Bldg Purge CB Exhaust	dent Type, sele fans. ws in the spaces <u>∕ENT</u> √on ¶₄ SCFM 6600 950 950 t 52500 52500	ct release pathway s provided. Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool H&V Room Bldg. Total =	LDING √on ¶₄ SCFM 10563 11385 11385 6250		
	<b>B</b> . <b>C</b> . Fan 1-HVE-64 1-HVE-64 1-HVE-74 1-HVE-74 1-HVE-74 1-HVE-84 1-HVE-84 1-HVE-10 1-HVE-10	Based Check Add u <u>UNIT</u> A Sh A H <sub>2</sub> A R0 B A R0 B	d on Accie ( the ON p the flow <u>1-PLANT \</u> hield Bldg Purge CB Exhaust AB Exhaust	dent Type, sele fans. ws in the spaces <u>∕ENT</u> √on ¶₄ SCFM 6600 6600 950 t 950 t 52500 52500 t 52500	ct release pathway s provided. <u>UNI</u> Fan 1-HVE-15 1-HVE-16A 1-HVE-16B 1-HVE-17 (Add) Fuel E	<u>T 1-FUEL BUI</u> New Fuel Fuel Pool H&V Room Bldg. Total =	LDING √on ¶₄ SCFM 10563 11385 11385 6250 		

D. Enter total pathway SCFM in the table below (Step 4) in the column labeled "SCFM".

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				RE	ATTACH LEASE R (Page 4	ATE DATA	UNIT 1 G	SHEET 1A RAB SAMPLE ge 2 of 4)			
	NOTE Chemistry Grab Sample results can be obtained from the TSC Chemistry Supervisor or TSC Dose Assessor.										
3.	Enter	GRAB S	AMPLE	DATA							
	<b>A.</b> Enter grab sample assay results for Gross Noble Gas μCi/cc concentration in the table below (Step 4) in the column labeled "μCi/cc".										
	<b>B.</b> Enter grab sample assay results for DEQ lodine-131 μCi/cc concentration in the table below (Step 4) in the column labeled "μCi/cc".										
						concentrati centration c	ion is unavailable, only.	perform			
4.	Deteri	mine <b>UNI</b>	T 1 REI	LEASE	RATE:						
	А.	Complet (µCi/cc			ow: tor = Ci/se	ec)					
P	athway	TYPE	μ	Ci/cc	¶₄ SCFM	factor	Noble Gas, Ci/sec	lodine, Ci/sec			
		Noble G	as			4.72 E -04					
	ant Vent	lodine				4.72 L -04					
	ial Dida	Noble G	as			4.72 E -04					
	uel Bldg.	lodine	;			4.72 - 04	and the second second second second				
	CCS - A	A Noble Gas			33,000	4.72 E -04					
					00,000	4.72 - 04					
	CCS - B	Noble G	ias		33,000	4.72 E -04					
	<u> </u>	lodine	>								

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		-	ATTACHMI EASE RA (Page 5 of	<u>FE DATA</u>	<u>UNIT 1 0</u>	SHEET 1A BRAB SAMPI Ige 3 of 4)	
. (continu	ued)						
		ne-131 grab Release Rate		ults are not avai	ilable, <u>The</u>	<u>n</u> estimate	
	1. Selec Pathy		ctor based o	on current Accid	ent Type a	and Release	
PATHWAY	LOCA	SGTR	MSLB	WASTE GAS DTR	FUEL HANDLIN	CASK	
Plant Vent	0.01	1. E-06	1.0	4. E-05	0	0	
ECCS	0.01	0	0	0	0	0	
Fuel Bldg.	0	0	0	0	0.04	1.3	
Steamline	0	1. E-03	0	0	0	0	
	2. Ente		form the ca	ec and lodine F Iculation.		Biolowing	
. Determ	Gross Noble Ci/sec 3. Ente in St hine the <b>SIT</b>	X X r DEQ lodin ep 5. <b>E RELEASI</b>	Iodine Fa e 131 Ci/se E <b>RATE</b> :	=	EQ lodine Ci/sec iate colum		
. Determ	Gross Noble Ci/sec 3. Ente in St hine the <b>SIT</b>	X e Gas r DEQ lodin ep 5.	Iodine Fa e 131 Ci/se E <b>RATE</b> :	=D	Ci/sec	n in the table	
5. Determ A.	Gross Noble Ci/sec 3. Ente in St hine the SIT Complete th	X X r DEQ loding ep 5. <b>E RELEASI</b> he table belo	lodine Fa e 131 Ci/se E <b>RATE</b> : ow:	actor D to in the appropr	Ci/sec		
5. Determ A. Total the U	Gross Noble Ci/sec 3. Ente in St hine the SIT Complete th Jnit 1 release	X X r DEQ lodin ep 5. <b>E RELEASI</b>	Iodine Fa e 131 Ci/se E <b>RATE</b> : ow: nined above	actor D to in the appropr	Ci/sec	n in the table	

DE				PAGE:						
REVIS	SION NO.:		PROCEDURE TITLE: OFF-SITE DOSE CALCULATIONS							
PROC	EDURE N	0.:	UFF-SHE DUSE CALCULATIONS	43 of 81						
	EPIP-		ST. LUCIE PLANT							
			RELEASE RATE DATA UNIT 1 G	SHEET 1A RAB SAMPLE Ige 4 of 4)						
6.		Enter the SITE RELEASE RATES in the selected DOSE CALCULATION WORKSHEET:								
	Α.	On line	e C, circle Grab Sample.							
	в.	Enter	ne NOBLE GAS RELEASE RATE into line 8.							
	C.	Enter	the IODINE RELEASE RATE into line 1.	NE RELEASE RATE into line 1.						
	D.	Enter	the <b>DURATION</b> (if 2 affected units, use longest) into lin	e 6.						
	Ε.	Enter line 11	the <b>PF</b> (Particulate Factor) (if 2 affected units, use large	∋st) into						
7.	This CAL	data she CULATI	eet is completed, follow the instructions on the DOSE ON WORKSHEET.							
			END OF DATA SHEET 1A							

REVISION NO .:		PROCEDU	RE TITLE:	·····			PAGE	:			
	6			OFF-S	ONS						
PROC	CEDURE NO.:			011 0		0,12002,1110			44 of 81		
	EPIP-0	9	-	ST. LUCIE PLANT							
			•	RE	ATTACHM LEASE RA (Page 7	ATE DATA	<u>UNIT 2 G</u>	A SHEI RAB S age 1 o	AMPLING		
1.	Gather		DENT D	ATA:							
	Α.	Date a	and time	of data:	<u></u>	/					
	В.	Ask E	mergency Coordinator:								
		1. Accident Type									
				•							
		2.			•	ing (circle): Y	ES NO				
			a. If	YES, P	F = <b>4.4</b> ;	NO, PF = <b>1.0</b>					
			<b>b.</b> E	inter <b>PF</b>	=						
		3.	Potentia	al DURA	TION of re	lease (if unkno	wn, use 2)		hours		
2.	Evalua	ate app	licable F	RELEAS	E PATHW/	<b>AY(S)</b> :					
	А.	Based	l on Acci	dent Typ	oe, select re	elease pathwa	y in the fol	lowing t	able.		
	В.	Check	the ON	fans.							
	C.	Add up the flows in the spaces provided.									
		<u>UNIT</u>	2-PLANT	<u>VENT</u>			IT 2-FUEL B T Diverted to Use Stated	Plant Ve			
	Fan			√on	¶₄ SCFM	Fan		√on	¶₄ SCFM		
	2-HVE-6A	Sh	ield Bldg	<u></u>	6600	2-HVE-15	New Fuel		12125		
	2-HVE-6E	3			6600	2-HVE-16A	Fuel Pool		12500		
1	2-HVE-7A	H <sub>2</sub>	Purge		2500	2-HVE-16B	Fuel Pool		12500		
	2-HVE-7E			<del></del>	2500	2-HVE-17	Bldg H&V		7500		
	2-HVE-8A		B Exhaus	t	52500	(Add) Fuel B	ldg. Total = _				
	2-HVE-8E				52500	_	ECCS AR	EA			
	2-HVE-10	A RA	B Exhaus	t	105625	Fan			¶₄ SCFM		
	2-HVE-10	B			105625	2-HVE-9A			33000		
	(Add) Pla	nt Vent	Total =			2-HVE-9B			33000		

**D.** Enter total pathway SCFM in the table below (Step 4) in the column labeled "SCFM".

RE	VISION NO .:	PROCEDURE TITLE:					PAGE:			
	6		0	FF-S	SITE DOSE	CALCULA	TIONS	45 of 81		
PR	OCEDURE NO .:							40 01 01		
	EPIP-0	9			ST. LUC	IE PLANT				
	ATTACHMENT 8 DATA SHEET 2A <u>RELEASE RATE DATA</u> UNIT 2 GRAB SAMPLING (Page 8 of 23) (Page 2 of 4)									
	<u>NOTE</u> Chemistry Grab Sample results can be obtained from the TSC Chemistry Supervisor or TSC Dose Assessor.									
3.	Enter	GRAB SA		ΑΤΑ	λ:					
	A. Enter grab sample assay results for Gross Noble Gas $\mu$ Ci/cc concentration in the table below (Step 4) in the column labeled " $\mu$ Ci/cc".									
	<b>B.</b> Enter grab sample assay results for DEQ lodine-131 $\mu$ Ci/cc concentration in the table below (Step 4) in the column labeled " $\mu$ Ci/cc".									
					31 µCi/cc c e Gas conc		on is unavailable, nly.	perform		
4	Deteri	mine <b>UNI</b>	<b>7 2 RELE</b>	EASE	RATE:					
	Α.	Complete (µCi/cc )			low: .tor = Ci/se	c)				
	Pathway	TYPE	μCi	/cc	¶₄ SCFM	factor	Noble Gas, Ci/sec	lodine, Ci/sec		
		Noble Ga	as			4 70 5 04				
	Plant Vent	lodine				4.72 E -04				
		Noble Ga	as							
	Fuel Bldg.	Iodine				4.72 E -04				
	<b>F000</b>	Noble G	as		22.000					
	ECCS - A	S - A lodine 33,		33,000	4.72 E -04					
	F000 F	Noble G	as		22.000	4.72 E -04				
	ECCS - B	lodine			33,000	4.12 E -04				

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6		OFF-SI	s	46 of 81		
EPIP-0			ST. LUCIE	PLANT		
	<b>L</b>		ATTACHMI LEASE RA (Page 9 of	<u>TE DATA</u>	NIT 2 GRA	HEET 2A B SAMPLIN 3 of 4)
. (contir	nued)					
В.		odine-131 grab le Release Rate		ults are not ava	ilable, <u>Then</u>	estimate
		elect lodine Fac athway.	ctor based o	on current Accid	lent Type ar	nd Release
PATHWAY	LOC	A SGTR	MSLB	WASTE GAS DTR	FUEL HANDLING	CASK G DROP
Plant Vent	0.01	1. E-06	1.0	4. E-05	0.04	1.3
ECCS	0.01		0	0	0	0
Fuel Bldg.	0	0	0	0	0.04	1.3
Steamline		1. E-03	0	0	0	0
5. Deter A.	e Gross N Ci/ 3. E ir mine the	quation and pe X oble Gas sec	rform the ca lodine Fa le 131 Ci/se <b>E RATE</b> :	=	EQ lodine 1 Ci/sec	131
				Noble G	as, Ci/sec lo	odine, Ci/sec
	Unit 2 rel	ease rates deter	mined above			n-ra-
Total the						
	is AFFEC	TED, enter its re	elease rates			

							DACE		
REVISI	ON NO.:		PROCEDURE T				PAGE:		
	6		L C	OFF-SITE DOS		ONS	47 of 81		
PROCE	EDURE NO			ST. LU	ICIE PLANT				
				RELEASE	HMENT 8 <u>RATE DATA</u> 10 of 23)	UNIT 2 GRA	SHEET 2A <u>AB SAMPLING</u> a 4 of 4)		
6.		r the SIT RKSHEE		E RATES in t	ne selected DOS	SE CALCULA	ΓΙΟΝ		
	Α.	On line	e C, circle C	Grab Sample.					
	В.	Enter	the NOBLE	GAS RELEA	SE RATE into I	ine 8.			
	C.	Enter	er the IODINE RELEASE RATE into line 1.						
	D.	Enter	er the <b>DURATION</b> (if 2 affected units, use longest) into line 6.						
	E.	Enter line 11		rticulate Facto	r) (if 2 affected u	units, use large	est) into		
<ol> <li>This data sheet is completed, follow the instructions on the DOSE CALCULATION WORKSHEET.</li> </ol>									
				END OF DA	TA SHEET 2A				

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			PROCEDUR						
ļ	6			UFF-SILE DO	SE CALCULATIC	CNI	48 of 81		
PRO	CEDURE NO.:								
	EPIP-0	9		ST. LU	JCIE PLANT				
				RELEASE	HMENT 8 RATE DATA UN	DATA SH	ENT MONITOR		
				(Page	11 of 23)	(Page	1 of 3)		
1.	Gathe	r <b>ACCI</b>	DENT DA	ATA:					
	Α.	Date a	and time o	of data:	/				
	В.	Ask Ei	mergency	Coordinator:					
		1.	Accident	Туре					
		2.	ls core o	verheating or n	nelting (circle): Y	ES NO			
			<b>a.</b> If	YES, PF <b>= 4.4</b> ;	If NO, PF = <b>1.0</b>				
			<b>b</b> . E	nter <b>PF =</b>					
		3.	Potentia	DURATION of	release (if unkno	wn, use 2):	hours		
2.	Evalua	ate app	licable <b>R</b>	ELEASE PATH	IWAY(S):				
	Α.	Based	l on Accio	lent Type, sele	ct release pathwa	y in the follow	ving table.		
	Β.	Check	the ON	ans.					
	C.	Add u	p the flows in the spaces provided.						
		<u>UNIT '</u>	<u>1-PLANT V</u>			IT 1-FUEL BUIL			
	Fan			√on ¶₄ SCFM	Fan		√on ¶₄ SCFM		
	1-HVE-6A		ield Bldg	6600	1HVE-15	New Fuel	10563		
	1-HVE-6E		_	6600	1-HVE-16A	Fuel Pool	11385		
	1-HVE-7A	-	Purge	950	1-HVE-16B		11385		
	1-HVE-78			950 53500	1-HVE-17 (Add) Evel B	H&V Room	6250		
			CB Exhaust	52500 52500	(Add) Fuel B	ldg. Total =			
	1-HVE-8E 1-HVE-10		AB Exhaust			ECCS AREA			
	1-HVE-10			92563	Fan	<u></u>	¶4		
				0_0000			SCFM		
	(Add) Pla	nt Vent	Total =	<u></u>	1-HVE-9A		33000		
					1-HVE-9B		33000		

**D.** Enter total pathway SCFM in the table below (Step 5) in the column labeled "SCFM".

REV	ISION NO.:	PROCEDURE TITI	PROCEDURE TITLE:					GE:
	6	OF	F-SITE DC	SE CAL	CULATIO	NS	1	40 -6 94
PRC	CEDURE NO.:	-1						49 of 81
	EPIP-09		ST. L		ANT			
3.	Enter EFF Attachme based on A. Bas B. En "D/	The section of the se	ATTAC RELEASE (Page OR DATA: DR DATA: <u>Ne</u> ditional info d release Pathway, s	CHMEN RATE 12 of 23 OTE ormation pathway	<b>7 8</b> <b>DATA UN</b> 3) on effluent	(Page t monitor se fluent Moni	JEN 2 0 elect tor.	f 3)
4.	A. Se Pa	INE FACTOR: lect lodine Facto thway.	······		Accident T	ype and R	- <u>r</u>	se Cask
	PATHWA	Y LOCA S	BGTR	MSLB	GAS DTR	HANDLING		DROP
	Plant Ven	t 0.01 1	. E-06	1.0	4. E-05	0		0
	ECCS	0.01	0	0	0	0	_	0
	Fuel Bldg		0	0	0	0.04		1.3
	Steamline	e 0 1	. E-03	0	0	0		0
5.	Determin <b>A</b> . Co	e Unit 1 RELEA omplete the table ATA x SCFM x	SE RATE:					ne Ci/sec)
	Pathway	DATA	¶₄ SCFM	facto	r Noble	Gas, Ci/sec	IF	lodine Ci/sec
	Plant Vent	uCi/cc		4.72 E	-04			
	ECCS-A	uCi/cc	33,000	4.72 E	-04			
	ECCS-B	uCi/cc		4.72 E	-04			
	Fuel Bldg.	uCi/cc		4.72 E				
	Steamline A	mr/hr	1.0	1.24 E	-02			
	Steamline B	mr/hr	1.0					
				<u> </u>	<u>_</u>			

REV	ISION NO.:		PROCEDURE TITLE:	PAGE:				
	6		OFF-SITE DOSE CALC	ULATIONS	50 of 81			
PRO	CEDURE NO .:							
	EPIP-09	Э	ST. LUCIE PLAI	NT				
			ATTACHMENT 8 <u>RELEASE RATE DA</u> (Page 13 of 23)		ENT MONITOR			
6.	Detern	nine th	e Site Release Rate.					
	А.	Compl	ete the table below:					
				Noble Gas, Ci/sec	lodine, Ci/sec			
	Enter the U worksheet	Init 1 rel	ease rates determined from this					
			TED, enter its release rates					
	Add A and	B to obt	ain the SITE RELEASE RATES					
7.	Enter t WORk		E RELEASE RATES in the selecte	ed DOSE CALCULAT	ΓΙΟΝ			
	Α.	On line	e C, circle Effluent Monitor.					
	В.	Enter	the NOBLE GAS RELEASE RATE into line 8.					
	C.	Enter	the IODINE RELEASE RATE into line 1.					
	D.	Enter	the <b>DURATION</b> (if 2 affected units,	its, use longest) into line 6.				
	Е.	Enter line 11	the <b>PF</b> (Particulate Factor) (if 2 affe I.	ected units, use large	est) into			
8.			eet is completed, follow the instruct ON WORKSHEET.	nstructions on the DOSE				
			END OF DATA SHEE	ET 1B				
1								

REVI	SION NO.:		PROCEDU		:			PAGE:	,		
	6			OFF-SITE DOSE CALCULATIONS					1 of 81		
ROC	CEDURE NO .:										
	EPIP-0	9			ST. LUC						
				F	RELEASE F	MENT 8 RATE DATA UI 4 of 23)	DATA S NIT 2 EFFLU (Page		ONITOF		
l <b>.</b>	Gathe	r <b>ACC</b>	IDENT D	ATA:							
	Α.	Date a	and time of data://								
	В.	Ask E	mergenc	y Cool	rdinator:						
		1.	Acciden	Accident Type							
		2.	Is core of	overhe	ating or me	lting (circle): Y	ES NO				
			a. If YES, PF = 4.4; If NO, PF = 1.0								
			b. E	inter <b>P</b>	°F =						
		3.	Potentia	I DUR	ATION of r	elease (if unkno	own, use 2):_		hours		
2.	Evalua	ate ap	olicable F	RELEA	SE PATHV	<b>VAY(S)</b> :					
	Α.	Base	d on Accident Type, select release pathway in the following table.								
	В.	Chec	k the ON	the ON fans.							
	C.	Add u	p the flow	vs in t	he spaces p	provided.					
		UNIT :	2 - PLANT	<u>VENT</u>		<u>UNIT 2 - FUEL BUILDING</u> IF NOT DIVERTED					
	Fan			√on	¶₄ SCFM	Fan		√on	¶₄ SCFM		
	2-HVE-6/ 2-HVE-6/ 2-HVE-7/ 2-HVE-7/	3 A H <sub>2</sub> 3	eld Bidg Purge		6600 6600 2500 2500	2HVE-15 2-HVE-16A 2-HVE-16B 2-HVE-17 (Add) Fuel P	New Fuel Fuel Pool H&V Room	·	12125 12500 12500 7500		
	2-HVE-8/ 2-HVE-8 2-HVE-1	З	B Exhaust B Exhaust		52500 52500 105625	(Add) Fuel B	ldg. Total = ECCS AREA		_ ¶₄		
	2-HVE-10	OВ	Total =		105625	2-HVE-9A 2-HVE-9B		:	SCFM 33000 33000		

D. Enter total pathway SCFM in the table below (Step 5) in the column labeled "SCFM".

RE\	/ISION NO.:	PROCEDURE TI	TLE:				PA	AGE:		
	6	0	F-SITE D	OSE CAL	CULATIO	NS		52 of 81		
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	EPIP-09		ST.	LUCIE PL	ANT					
3.	Enter <b>EFFL</b>	UENT MONIT	RELEAS (Pag	ge 15 of 23	DATA UN	DATA I <u>T 2 EFFL</u> (Pag	UEN	T MONITOR		
		t 5 provides ac ccident type a	Iditional in			t monitor s	elec	tion		
	A. Base	ed on Release	Pathway,	select app	olicable Ef	fluent Mon	itor.			
	B. Ente "DA <sup>-</sup>	er monitor data TA".	in the tab	le below (	Step 5) in t	the columr	n lab	eled		
4.	A. Sele	NE FACTOR: ect lodine Facto way.	or based c	on current.	Accident T	ype and F	Relea	ISE		
	PATHWAY	LOCA	SGTR	MSLB	WASTE GAS DTR	FUEL HANDLING		CASK DROP		
	Plant Vent	0.01	1. E-06	1.0	4. E-05	0.04		1.3		
	ECCS	0.01	0	0	0	0		0		
	Fuel Bldg.	0	0	0	0	0.04		1.3		
	Steamline	0	1. E-03	0	0	0		0		
5.	<ul> <li>B. Enter under "IF" Column in Step 5.</li> <li>5. Determine RELEASE RATE:</li> <li>A. Complete the table below: (DATA x SCFM x factor = N.G. Ci/sec x lodine Factor = lodine Ci/sec)</li> </ul>									
	Pathway	DATA	¶ <sub>4</sub> SCFM	factor	Nobie G	as, Ci/sec	IF	lodine Ci/sec		
	Plant Vent	uCi/cc		4.72 E-04	4					
	ECCS-A	uCi/cc	33,000	4.72 E-04	4					
	ECCS-B	uCi/cc	33,000	4.72 E-0	4					
	Fuel Bidg.	uCi/cc		4.72 E-0	4					
	Steamline A	mr/hr	1.0	1.24 E-0	2					
	Steamline B	mr/hr	1.0	1.24 E-0	2					
1										

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REV	ISION NO.:				
	6		OFF-SITE DOSE CALC	ULATIONS	53 of 81
PRO	CEDURE NO.				
	EPIP-0	)9	ST. LUCIE PLA	NI	
			(Page 16 of 23)	ATA UNIT 2 EFFLUE	ENT MONITOR
6.			e Site Release Rate		
	А.	Compl	lete the table below:		
				Noble Gas, Ci/sec	lodine, Ci/sec
	Enter the worksheet		ease rates determined from this		
1	IF Unit 1 is	s AFFEC	TED, enter its release rates		
	Add A and	i B to obt	ain the SITE RELEASE RATES		
7.		the SIT	E RELEASE RATES in the select	ed DOSE CALCULA	TION
	Α.	On lin	e C, circle Effluent Monitor.		
	В.	Enter	the NOBLE GAS RELEASE RAT	E into line 8.	
	С.	Enter	the IODINE RELEASE RATE into	line 1.	
	D.	Enter	the <b>DURATION</b> (if 2 affected units	s, use longest) into lin	e 6.
	E.	Enter line 1 <sup>-</sup>	the <b>PF</b> (Particulate Factor) (if 2 afl 1.	fected units, use large	est) into
8.			eet is completed, follow the instruc ON WORKSHEET.	tions on the DOSE	
			END OF DATA SHE	ET 2B	
1					

REVISI	ION NO.:		PROCED	URE TI	TITLE:			PAGE:
	6 DCEDURE NO.:					E CALCULATIO	INS	54 of 81
KUCE					ST. LUC			
			•		RELEASE F	IMENT 8 RATE DATA 7 of 23)	<u>UNIT 1 0</u>	SHEET 3 R 2 CHRRM e 1 of 3)
	If bot unit.	th units a	are usir	ng thi	NO <sup>-</sup> nis method, the	<u>TE</u> n complete one v	worksheet fo	r each
۱.	Gath	er ACCI	DENT	DAT	Г <b>А</b> :			
	Α.	Unit #	(circle)	): 1	2			
	В.	Date a	and tim	e of c	data:	/		
	C.	Ask E	merger	тсу С	Coordinator:			
		1.	Accide	ent Ty	Гуре			
		2.	ls core	e ove	erheating or me	elting (circle): Y	ES NO	
			a.	If YE	ES, PF <b>= 4.4</b> ; I	f NO, PF = <b>1.0</b>		
			b.	Ente	ter <b>PF =</b>			
		3.	Poten	tial D	DURATION of	release (if unkno	own, use 2):_	hours
<b>2</b> .	Obta	ain CHR	RM RE		NG and HOUR	S SINCE REAC	TOR TRIP:	
	А.	Highe	est CHF	RRM	reading:	R/hr;		
	В.	Сору	the CH	IRRM	M reading in R/	/hr to Steps 5A a	and B.	
	С.	Date	and Tir	ne of	of Reactor Trip:	/		
	D.	Hours	s Since	Rea	actor Trip:	hours;		

EVIS	NO.:	PROCI	DURE TITLE:				PA	GE:	
	6		OFF-SI	TE DOSE	E CALCULAT	IONS		E	5 of 81
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	EPIP-09			ST. LUCIE PLANT					
			-	ATTACHMENT 8 DAT <u>RELEASE RATE DATA</u> UNIT 1 (Page 18 of 23) (P					
3.	Determine	e CORE	FRACTION	FACTOR	(CF):				
	<b>A.</b> In <sup>-</sup> Tri		below, find t	he CF th	at correspond	ls with H	ours Sinc	e R	eactor
	<b>B.</b> En	iter CF va	alue in Steps	5A and I	3.				
	Hours Since	e Reactor T	Trip C	:F	Hours Since	Reactor Tri	ip	CF	
		0		E - 07	> 2.0 to	9 ≤ 4.0	6.2	5 E -	06
	> 0 t	o ≤ 0.5	1.00	E - 06	> 4.0 to	0≤8.0	1.2	5 E -	05
		to $\leq 1.0$	1.67	E - 06	> 8	.0	2.2	2 E -	05
		$to \le 2.0$		E - 06	- 0.0				
	- 1.0	10 5 2.0							
			in the table		FACTOR (NO				
F					Hours Since	NGRF	Hours Sir		NGRF
	<b>B.</b> Er	nter it in S	in the table Step 5A.	below. NGRF	Hours Since Rx Trip	NGRF	Rx Tri	<b>&gt;</b>	
	B. Er Hours Since	nter it in S	in the table Step 5A. Hours Since	below.	Hours Since		Rx Triµ > 14 to ≤	5 15	0.16
	B. Er Hours Since Rx Trip	nter it in S	in the table Step 5A. Hours Since Rx Trip	below. NGRF 0.44 0.39	Hours Since Rx Trip > 9 to ≤ 10 > 10 to ≤ 11	NGRF 0.26 0.23	Rx Trip > 14 to ≤ > 15 to ≤	) 15 16	0.16 0.16
	B. Er Hours Since Rx Trip 0	nter it in S NGRF 1.0	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq 5$ > 5 to $\leq 6$ > 6 to $\leq 7$	below. NGRF 0.44 0.39 0.35	Hours Since Rx Trip > 9 to $\leq$ 10 > 10 to $\leq$ 11 > 11 to $\leq$ 12	NGRF 0.26 0.23 0.21	Rx Trip > 14 to ≤ > 15 to ≤ > 16 to ≤	) 15 16 17	0.16 0.16 0.14
	<b>B.</b> Er Hours Since Rx Trip 0 > 0 to ≤ 1	NGRF 1.0 0.90	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq 5$ > 5 to $\leq 6$ > 6 to $\leq 7$ > 7 to $\leq 8$	below. NGRF 0.44 0.39 0.35 0.32	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$	NGRF 0.26 0.23 0.21 0.19	$Rx Trip > 14 to \le$ $> 15 to \le$ $> 16 to \le$ $> 17 to \le$	) 15 16 17	0.16 0.16 0.14 0.14
	<b>B.</b> Er Hours Since Rx Trip 0 > 0 to $\leq 1$ > 1 to $\leq 2$	nter it in S NGRF 1.0 0.90 0.70	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq 5$ > 5 to $\leq 6$ > 6 to $\leq 7$	below. NGRF 0.44 0.39 0.35	Hours Since Rx Trip > 9 to $\leq$ 10 > 10 to $\leq$ 11 > 11 to $\leq$ 12	NGRF 0.26 0.23 0.21	Rx Trip > 14 to ≤ > 15 to ≤ > 16 to ≤	) 15 16 17	0.16 0.16 0.14
5.	<b>B.</b> Er Hours Since Rx Trip 0 > 0 to $\leq 1$ > 1 to $\leq 2$ > 2 to $\leq 3$ > 3 to $\leq 4$	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq 5$ > 5 to $\leq 6$ > 6 to $\leq 7$ > 7 to $\leq 8$	below. NGRF 0.44 0.39 0.35 0.32 0.28	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$	NGRF 0.26 0.23 0.21 0.19	$Rx Trip > 14 to \le$ $> 15 to \le$ $> 16 to \le$ $> 17 to \le$	) 15 16 17	0.16 0.16 0.14 0.14
5.	<b>B.</b> Er Hours Since Rx Trip 0 $> 0 \text{ to } \le 1$ $> 1 \text{ to } \le 2$ $> 2 \text{ to } \le 3$ $> 3 \text{ to } \le 4$ Determin	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq$ 5 > 5 to $\leq$ 6 > 6 to $\leq$ 7 > 7 to $\leq$ 8 > 8 to $\leq$ 9	below. NGRF 0.44 0.39 0.35 0.32 0.28	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$	NGRF 0.26 0.23 0.21 0.19	$Rx Trip > 14 to \le$ $> 15 to \le$ $> 16 to \le$ $> 17 to \le$	) 15 16 17	0.16 0.16 0.14 0.14
5.	<b>B.</b> Er Hours Since Rx Trip 0 > 0 to $\leq 1$ > 1 to $\leq 2$ > 2 to $\leq 3$ > 3 to $\leq 4$ Determin <b>A.</b> Ca	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50 ne <b>RELE</b> / alculate t	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq$ 5 > 5 to $\leq$ 6 > 6 to $\leq$ 7 > 7 to $\leq$ 8 > 8 to $\leq$ 9 ASE RATES he Noble Ga	below. NGRF 0.44 0.39 0.35 0.32 0.28 : s Releas	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$	NGRF 0.26 0.23 0.21 0.19 0.18	$Rx Trip > 14 to \le$ $> 15 to \le$ $> 16 to \le$ $> 17 to \le$ $> 18$	5 15 16 17 18	0.16 0.16 0.14 0.14 0.13
5.	<b>B.</b> Er Hours Since Rx Trip 0 $> 0 \text{ to } \le 1$ $> 1 \text{ to } \le 2$ $> 2 \text{ to } \le 3$ $> 3 \text{ to } \le 4$ Determin <b>A.</b> Ca R/hu	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50 ne <b>RELE</b> alculate t	in the table Step 5A. Hours Since Rx Trip > 4 to $\leq$ 5 > 5 to $\leq$ 6 > 6 to $\leq$ 7 > 7 to $\leq$ 8 > 8 to $\leq$ 9 ASE RATES he Noble Ga	below. NGRF 0.44 0.39 0.35 0.32 0.32 0.28 : s Releas	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$ e Rate:	NGRF 0.26 0.23 0.21 0.19 0.18	$Rx Trip > 14 to \le$ $> 15 to \le$ $> 16 to \le$ $> 17 to \le$ $> 18$	5 15 16 17 18	0.16 0.16 0.14 0.14 0.13
5.	<b>B.</b> Er Hours Since Rx Trip 0 $> 0 \text{ to } \le 1$ $> 1 \text{ to } \le 2$ $> 2 \text{ to } \le 3$ $> 3 \text{ to } \le 4$ Determin <b>A.</b> Ca R/hu	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50 ne <b>RELE</b> alculate t r <b>x</b> alculate l	in the table Step 5A. Hours Since Rx Trip $> 4 \text{ to } \le 5$ $> 5 \text{ to } \le 6$ $> 6 \text{ to } \le 7$ $> 7 \text{ to } \le 8$ $> 8 \text{ to } \le 9$ ASE RATES he Noble Ga (CF) x odine Release e Iodine Release	below. NGRF 0.44 0.39 0.35 0.32 0.28 : is Releas 	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$ e Rate:	NGRF 0.26 0.23 0.21 0.19 0.18	Rx Trip         > 14 to ≤         > 15 to ≤         > 16 to ≤         > 17 to ≤         > 18	2 15 16 17 18	0.16 0.14 0.14 0.13
5.	<b>B.</b> Er Hours Since Rx Trip 0 $> 0 \text{ to } \le 1$ $> 1 \text{ to } \le 2$ $> 2 \text{ to } \le 3$ $> 3 \text{ to } \le 4$ Determin <b>A.</b> Ca R/hn <b>B.</b> C	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50 ne <b>RELE</b> alculate t r x alculate t . <u>If</u> th Value	in the table Step 5A. Hours Since Rx Trip $> 4 \text{ to } \leq 5$ $> 5 \text{ to } \leq 6$ $> 6 \text{ to } \leq 7$ $> 7 \text{ to } \leq 8$ $> 8 \text{ to } \leq 9$ ASE RATES he Noble Ga (CF) x odine Release e Iodine Rerue (ICV) = 0.	below. NGRF 0.44 0.39 0.35 0.32 0.28 : ss Releas (f se Rate: noval Sys 6, If <u>NOT</u>	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$ WGRF) <b>X 4</b> Stem <u>IS</u> in use	NGRF 0.26 0.23 0.21 0.19 0.18 =	Rx Trip         > 14 to ≤         > 15 to ≤         > 16 to ≤         > 17 to ≤         > 18	2 15 16 17 18 e Ga	0.16 0.14 0.14 0.13
5.	<b>B.</b> Er Hours Since Rx Trip 0 $> 0 \text{ to } \le 1$ $> 1 \text{ to } \le 2$ $> 2 \text{ to } \le 3$ $> 3 \text{ to } \le 4$ Determin <b>A.</b> Ca R/hn <b>B.</b> C	nter it in S NGRF 1.0 0.90 0.70 0.60 0.50 ne <b>RELE</b> alculate t r x alculate t . <u>If</u> th Value	in the table Step 5A. Hours Since Rx Trip $> 4 \text{ to } \leq 5$ $> 5 \text{ to } \leq 6$ $> 6 \text{ to } \leq 7$ $> 7 \text{ to } \leq 8$ $> 8 \text{ to } \leq 9$ ASE RATES he Noble Ga (CF) x odine Release e Iodine Rerue (ICV) = 0.	below. NGRF 0.44 0.39 0.35 0.32 0.28 : ss Releas (f se Rate: noval Sys 6, If <u>NOT</u>	Hours Since Rx Trip > 9 to $\leq 10$ > 10 to $\leq 11$ > 11 to $\leq 12$ > 12 to $\leq 13$ > 13 to $\leq 14$ WGRF) <b>X 4</b> (	NGRF 0.26 0.23 0.21 0.19 0.18 =	Rx Trip         > 14 to ≤         > 15 to ≤         > 16 to ≤         > 17 to ≤         > 18	2 15 16 17 18 e Ga	0.16 0.14 0.14 0.13

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	6		OFF-SITE DOSE CALCULA	TIONS	56 of 81	
PROCE	DURE NO.	:			50 01 8 1	
	EPIP-0	9	ST. LUCIE PLANT			
			ATTACHMENT 8 <u>RELEASE RATE DATA</u> (Page 19 of 23)	<u>UNIT 1 O</u>	SHEET 3 <u>R 2 CHRRM</u> e 3 of 3)	
6.	Deter	mine th	e SITE RELEASE RATE:			
	А.	Comp	lete the table below.			
				Noble Gas	lodine	
Ent	ter the r	elease	rates determined from this worksheet			
IF t	the othe	er Unit is	AFFECTED, enter its release rates			
Ad	d A and	B to ob	otain the SITE RELEASE RATES			
7.		the SIT KSHEE	E RELEASE RATES in the selected D	OSE CALCULA	ΓΙΟΝ	
	Α.	On lin	e C, circle CHRRM.			
	В.	Enter	the NOBLE GAS RELEASE RATE into	o line 8.		
	С.	Enter	the IODINE RELEASE RATE into line	1.		
	D.	Enter	the <b>DURATION</b> (if 2 affected units, use	longest) into lin	e 6.	
	E.	Enter line 1	the <b>PF</b> (Particulate Factor) (if 2 affected) 1.	d units, use large	əst) into	
8.	This of CALC	data sh CULATI	eet is completed, follow the instructions ON WORKSHEET.	et is completed, follow the instructions on the DOSE IN WORKSHEET.		
			END OF DATA SHEET 3	5		

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	6			OFF-SITE DOS		ONS		
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				ATTACHMENT 8DATA SHEET 4RELEASE RATE DATAUNIT 1 OR 2 POST LOCA(Page 20 of 23)(Page 1 of 2)				
	lf bo unit.	th units a	are using	<u>NO</u> g this method, ther		worksheet fo	r each	
1.	Gath	ier <b>ACCI</b>		DATA:				
	Α.	Unit #	(circle):	12				
	В.	Date a	nd time	of data:	/			
	C.	Ask Er	nergen	cy Coordinator:				
		1.	Accide	nt Type				
		2.	ls core	overheating or me	lting (circle):	YES NO		
			<b>a</b> .	If YES, PF = <b>4.4</b> ; If	NO, PF = <b>1.0</b>			
			b.	Enter <b>PF</b> =				
		3.	Potenti	al <b>DURATION</b> of r	elease (if unkno	own, use 2):	hours	
2.	Obta	ain <b>POST</b>	LOCA	READING:				
	Α.	From	Unit #	, record the <u>H</u>	ighest POST L	OCA reading	mR/hr	
3.	Dete	ermine <b>U</b>	nit REL	EASE RATE:				
	А.	Based	l on the	2A, find the releas	e rates in the ta	able below.		
	В.	Enter	them in	Step 4.				
	Мо	Post Loc onitor Rea	ading	Noble Gas Release Rate (Ci/sec)	with lodin	lease Rate, (C		
		(mR/hr) ≤ 60	,	Negligible	In Use Negligible		gligible	
1		≥ 00 > 60 ≤ 10	nn	2.0	0.03		0.1	
				10.0	0.03		0.4	
	> 100 ≤ 1000 > 1000			40.0	0.60		1.6	

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	6		OFF-SITE DOSE CALCULAT	IONS	58 of 81
PRO	DCEDURE NO EPIP-(		ST. LUCIE PLANT		
			ATTACHMENT 8 <u>RELEASE RATE DATA</u> (Page 21 of 23)	UNIT 1 OR	SHEET 4 2 POST LOCA e 2 of 2)
4.	Deter	mine th	e SITE RELEASE RATE:		
	Α.	Compl	lete the table below.		
				Noble Gas	lodine
			AFFECTED Unit's release rates this worksheet		
	IF the oth	er Unit	is AFFECTED enter its release rates		
	Add A an	d B to o	btain the SITE RELEASE RATES		
5.		the SIT KSHEE	E RELEASE RATES in the selected DO	DSE CALCULAT	ΓΙΟΝ
	Α.	On lin	e C, circle Post LOCA.		
	В.	Enter	the NOBLE GAS RELEASE RATE into	line 8.	
	C.	Enter	the IODINE RELEASE RATE into line	1.	
	D.	Enter	the <b>DURATION</b> (if 2 affected units, use	longest) into lin	e 6.
	Е.	Enter line 11	the <b>PF</b> (Particulate Factor) (if 2 affected 1.	l units, use large	est) into
6.			eet is completed, follow the instructions ON WORKSHEET.	on the DOSE	
			END OF DATA SHEET 4		

				IDACE:					
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	6		OFF-SI	TE DOSE CALCU	ILATIONS	59 of 81			
PROCE				ST. LUCIE PLAN	IT.				
	EPIP-	-09		ST. LUCIE FLANT					
			_	ATTACHMENT 8					
			REL	EASE RATE DA (Page 22 of 23)		Page 1 of 2)			
				(Fage 22 01 20)					
				CAUTION					
		Use thi	is method only if tl	here is no data to	use in other me	thods.			
•	Gatł	ner <b>ACCI</b>	DENT DATA:						
	Α.	Unit #	(circle): 1 2						
	B	Dete c	and time of data:	1					
	В.	Date a							
	C.	Ask E	mergency Coordir	nator:					
		1.	Accident Type						
		2.	ls core overheati	ng or melting (circ	le): YES NO	D			
			a. If YES, PF	= <b>4.4</b> ; If NO, PF	= 1.0				
			<b>b.</b> Enter <b>PF</b> :						
		3.	Potential <b>DURA</b>	<b>FION</b> of release (if	unknown, use 2	2): nours			
	Dete	ermine th	ne SITE RELEASI	E RATE:					
	Α.	For th	e accident type, s	elect and circle th	e Noble Gas an	d lodine Release			
	7 4		in the table below						
	<b></b>		cident Type	Default	Release Ra	ates, Ci/sec			
		ALL	Juent Type	Duration	Noble Gas	lodine			
			A WITHOUT						
	lo		loval System in use	2 hours	37	1.6			
			DCA WITH	2 hours	37	0.6			
			ioval System in use						
	St		erator Tube Rupture		2.0	4.0 E - 05			
			eam Line Break	0.5 hours	0.04	0.01			
			el Handling	0.5 hours	11	4.0 E - 03			
		· · · ·	Cask Drop	0.5 hours	2.0	0.03			
	W	aste Gas I	Decay Tank Rupture	e 0.5 hours	2.0	2.0 E - 06			

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	6		OFF-SITE DOSE CALCULATI	ONS	60 of 81
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	EPIP-0	)9	ST. LUCIE PLANT		
			ATTACHMENT 8 RELEASE RATE DATA (Page 23 of 23)	UNIT 1 OR	SHEET 5 <u>2 DEFAULT</u> 2 of 2)
2.	(conti	nued)			
	В.	Compl	lete the table below.		
				Noble Gas	lodine
	Enter the	release	rates determined from this worksheet		
	F the oth	er Unit	is AFFECTED enter its release rates		
	Add A an	d B to o	btain the SITE RELEASE RATES		
3.		KSHEE	E RELEASE RATES in the selected DO T: e C, circle Default.		
	В.	Enter	the NOBLE GAS RELEASE RATE into	line 8.	
	C.	Enter	the IODINE RELEASE RATE into line 1		
	D.	Enter	the <b>DURATION</b> (if 2 affected units, use I	ongest) into line	e 6.
	E.	Enter line 11	the <b>PF</b> (Particulate Factor) (if 2 affected 1.	units, use large	est) into
4.	This ( CALC	data she CULATI	eet is completed, follow the instructions on WORKSHEET.	on the DOSE	
			END OF DATA SHEET 5		
			END OF ATTACHMENT 8		
1					

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	6	OFF-SITE D	OSE CAL	CULATIO	NS	61	of 81
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	EPIP-09	ST.	LUCIE PL	ANT			
		MANUAL DO	CHMENT SE CALC ge 1 of 10	ULATION	y Class = .	WORKSHI A Seabreez	EET 1 ze = YE
۹.	Enter Meteorolo	ogical Summary Data:					
	Unit	Wind Direction From		Affected Se	ectors		
З.	Circle Meteorol	ogical Data Source(s) used:					
	ERDADS / Tow	ver NOAA / N	NS	D	efault		
<b>C</b> .	Circle Release	Rate Method used: (if dual	unit, then in	dicate Meth	od for each	unit)	
	Grab Sample	Effluent M			HRRM		
	POST LOCA	Default		А	ttachment 1	0 / 12	
D.		of data from release rate def	termination:		/		
   ===	=============						
	-1	Follow the instruc					
lin		ROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles	
		RELEASE RATE, Ci/sec					SNF
1-	2 Enter the WIND SI						SNF
	B Divide line 1 by line		0.05 . 04	045.02	2.3 E + 03	8.0 E + 02	
	Iodine Dose Facto		2.3 E + 04	8.1 E + 03	2.3 E + 03	8.0 E + 02	CNE
ť	5 Multiply line 3 by li DOSE RATE (CDE	ne 4 to obtain <b>THYROID</b> E), mrem/hr					SNF
Ŀ	Enter DURATION	of release, hours					SNF
	7 Multiply line 5 by li THYROID DOSE (	ne 6 to obtain <b>PROJECTED</b> (CDE), mrem					PAR
	lastructions for TC		1 mile	2 miles	5 miles	10 miles	<u> </u>
		TAL DOSES (TEDE) S RELEASE RATE, Ci/sec	I mile	2 miles	Jimes	To miles	SNF
		D from line 2, above					
⊩⊩	0 Divide line 8 by lin			<u></u>			
_	1 Enter the PARTIC						
- I	2 Multiply line 10 by						
	3 Nobel Gas Dose F		5.0	2.6	0.73	0.26	
	4 Multiply line 12 by						
	5 Enter (Line 5 mult						
	Add line 14 and 1 RATE (TEDE), mi	5 to obtain <b>TOTAL DOSE</b> rem/hr					SNF
	7 Enter DURATION	from line 6, above					
	8 Multiply line 16 by DOSE (TEDE), m	line 17 to obtain <b>TOTAL</b> rem					PAR
		sheet (or a copy) to the Emerg	ency Coordir	ator (EOF HI	P Manager if	done in EOF}	
ے E.	Dose Calculati	ions completed; continue mo END OF	onitoring rel WORKSI		ssessing do	oses.	

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	6	OFF-SITE D	OSE CAL	62	of 81					
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	EPIP-09	ST.	LUCIE PL	ANT						
		MANUAL DO		ULATION		WORKSHI A Seabree				
<b>4</b> .	Enter Meteorolo	gical Summary Data:								
	Unit \	Vind Direction From		Affected Se	ectors					
З.	Circle Meteorolo	ogical Data Source(s) used:								
	ERDADS / Tow	-		D	efault					
<b>C</b> .		Rate Method used: (if dual	unit. then in	dicate Meth	od for each	unit)				
	Grab Sample	Effluent M			HRRM	,				
POST LOCA		Default			ttachment 1	0/12				
<b>`</b>			termination:							
<b>)</b> .	. Date and time of data from release rate determination://									
	Follow the instructions to calculate doses @									
line	Instruction for THY	ROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles				
1	Enter the IODINE F	RELEASE RATE, Ci/sec					SNF			
2	Enter the WIND SP	EED, mph					SNF			
3	Divide line 1 by line	2								
4	lodine Dose Factor	S,	3.8 E + 03	1.8 E + 03	7.9 E + 02	4.0 E + 02				
5	Multiply line 3 by lin DOSE RATE (CDE	ne 4 to obtain <b>THYROID</b> ;), mrem/hr					SNF			
6	Enter DURATION	of release, hours					SNF			
7	Multiply line 5 by lin THYROID DOSE (	ne 6 to obtain <b>PROJECTED</b> CDE), mrem					PAR			
lin	e Instructions for TO	TAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles				
8		S RELEASE RATE, Ci/sec		L,			SNF			
9	Enter WIND SPEE	D from line 2, above								
10	) Divide line 8 by line	9								
1	Enter the PARTIC	ULATE FACTOR								
12	2 Multiply line 10 by	line 11								
1:	B Noble Gas Dose F	actors	0.82	0.57	0.25	0.13				
14	4 Multiply line 12 by	line 13								
1:	5 Enter (Line 5 multi	plied by 0.04)			L		·			
1	6 Add line 14 and 15 RATE (TEDE), mr	i to obtain <b>TOTAL DOSE</b> em/hr					SNF			
1	7 Enter DURATION	from line 6, above								
1	8 Multiply line 16 by DOSE (TEDE), mr	line 17 to obtain <b>TOTAL</b> em					PAR			
1	9 Forward this works	sheet (or a copy) to the Emerg	ency Coordin	ator (EOF HP	P Manager if	done in EOF}				
E.	Dose calculatio	ons completed; continue mo END OF	onitoring rele		ssessing do	SES.				

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		6	OFF-SITE D	OSE CAL	CULATIO	NS	63	63 of 81		
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		EPIP-09	ST. I	UCIE PL	ANT					
			MANUAL DO	CHMENT SE CALC 3 of 10) \$	ULATION	V Class = B	VORKSHI Seabreez	EET 3 e = YE		
۹.		Enter Meteorolo	ogical Summary Data:	,						
<b>~~</b>			Wind Direction From		Affected Se	ctors				
в.			ogical Data Source(s) used:							
Ξ.		ERDADS / Tow			D	efault				
c.			Rate Method used: (if dual		_		unit)			
٠.		Grab Sample	Effluent Me			HRRM				
		POST LOCA	Default	511101	-	ttachment 1	0/12			
				ermination						
D.		Date and time of data from release rate determination://								
Γ			Follow the instruct	tions to calc	ulate doses (	@				
	line	Instruction for THY	ROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles			
	1	Enter the IODINE I	RELEASE RATE, Ci/sec					SNF		
	2	Enter the WIND SP					SNF			
	3	Divide line 1 by line	e 2							
	4	Iodine Dose Factor	rs,	3.0 E + 04	1.1 E + 04	3.0 E + 03	1.1 E + 03	1		
	5	Multiply line 3 by lin DOSE RATE (CDE	ne 4 to obtain <b>THYROID</b> E), mrem/hr					SNF		
	6	Enter DURATION	of release, hours					SNF		
	7	Multiply line 5 by li THYROID DOSE (	ne 6 to obtain PROJECTED CDE), mrem					PAR		
ľ	line	Instructions for TO	TAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles			
	8	Enter NOBLE GAS	S RELEASE RATE, Ci/sec					SNF		
ļ	9	Enter WIND SPEE	D from line 2, above			<u></u>				
	10	Divide line 8 by lin	e 9							
	11	Enter the PARTIC	ULATE FACTOR							
	12	Multiply line 10 by	line 11		I	<u> </u>	<del>.</del>			
	13	Noble Gas Dose F	actors	9.6	3.4	0.97	0.36			
	14	Multiply line 12 by	line 13							
		Enter (Line 5 multi								
	16	Add line 14 and 14 RATE (TEDE), mr	5 to obtain <b>TOTAL DOSE</b> em/hr					SNF		
	17	Enter DURATION	from line 6, above				<b>.</b>			
		DOSE (TEDE), m						PAR		
	19	Forward this work	sheet (or a copy) to the Emerg	ency Coordin	ator {EOF HF	P Manager if	done in EOF}	<u></u>		
E	<u> </u>		ons completed; continue mo		ases and as			<u></u>		

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		EPIP-09	ST.	LUCIE PL	ANT						
			MANUAL DO		ULATION		WORKSHI 3 Seabree				
А.		Enter Meteorolo	gical Summary Data:								
		Unit \	Wind Direction From		Affected Se	ectors					
В.		Circle Meteorolo	ogical Data Source(s) used:								
		ERDADS / Tow	er NOAA / N	NS	D	efault					
C.		Circle Release	Rate Method used: (if dual	unit, then in	dicate Meth	od for each	unit)				
		Grab Sample	Effluent M	onitor	C	HRRM					
		POST LOCA	Default		A	ttachment 1	10 / 12				
D.		Date and time of	of data from release rate det	termination:		/					
ſ		Follow the instructions to calculate doses @									
	line	Instruction for TH	YROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles				
	1		RELEASE RATE, Ci/sec		2 111100	0 111100		SNF			
	2	Enter the WIND S	· · · · · · · · · · · · · · · · · · ·					SNF			
	3	Divide line 1 by lir									
	4	Iodine Dose Facto		2.3 E + 04	6.0 E + 03	1.1 E + 03	5.7 E + 02				
	5		line 4 to obtain THYROID					SNF			
	6	Enter DURATION	of release, hours					SNF			
	7	Multiply line 5 by THYROID DOSE	line 6 to obtain <b>PROJECTED</b> (CDE), mrem					PAR			
	line	Instructions for TO	OTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles				
	8	Enter NOBLE GA	AS RELEASE RATE, Ci/sec					SNF			
	9	Enter WIND SPE	ED from line 2, above								
	10	Divide line 8 by li	ne 9								
	11	Enter the PARTIC	CULATE FACTOR								
	12	Multiply line 10 by	y line 11		1						
	13	Noble Gas Dose	Factors	7.4	1.9	0.36	0.18				
	14	Multiply line 12 by		<u> </u>							
	15	Enter (Line 5 mul						<b></b>			
	16	Add line 14 and 1 RATE (TEDE), m	15 to obtain TOTAL DOSE nrem/hr					SNF			
	17	Enter DURATION	from line 6, above								
	18	DOSE (TEDE), m	·····					PAR			
	19	Forward this work	ksheet (or a copy) to the Emer	gency Coordi	nator {EOF H	IP Manager i	f done in EOF	}			
E		Dose calculation	ons completed; continue mo END OF	onitoring rele WORKSI		ssessing do	SES.				

REV	EVISION NO.: PROCEDURE TITLE:					PAGE:	PAGE:	
		6	OFF-SITE	DOSE CA	ALCULATI	ONS	6	5 of 81
PRO	DCEI	DURE NO.:						50101
		EPIP-09	ST	. LUCIE I	PLANT			
			MANUAL D	ACHME	CULATIC	<u>DN</u>	WORKSH	IEET 5
			(Paç	ge 5 of 10	) Stability	/ Class =	C Seabree	ze = YE
A.		Enter Meteorolo	gical Summary Data:					
		Unit \	Wind Direction From		Affected	Sectors		-
В.		Circle Meteorolo	ogical Data Source(s) use	ed:				
		ERDADS / Tow	er NOAA /	NWS		Default		
C.		Circle Release I	Rate Method used: (if du	al unit, ther	indicate Me	thod for eac	:h unit)	
	Grab Sample Effluent			Monitor		CHRRM		
		POST LOCA	Default			Attachment	t 10 / 12	
D.		Date and time o	f data from release rate d	leterminatio	on:	/		-
IF-		······································						
			Follow the instru					
L			ROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles	
┞			RELEASE RATE, Ci/sec					SNF
		Enter the WIND SI						SNF
╟		Divide line 1 by line		005.04	1.7 E + 04	205.02	155102	
		Iodine Dose Facto		6.0 E + 04	1.7 E + 04	3.9 E + 03	1.5 E + 03	SNF
	5	Multiply line 3 by li DOSE RATE (CDI	ne 4 to obtain <b>THYROID</b> E), mrem/hr					
	6	Enter DURATION	of release, hours					SNF
	7	Multiply line 5 by li PROJECTED THY	ne 6 to obtain <b>'ROID DOSE (CDE)</b> , mrem					PAR
┢	line	Instructions for TO	TAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles	
ľ	8	Enter NOBLE GA	S RELEASE RATE, Ci/sec					SNF
	9	Enter WIND SPEE	D from line 2, above					
	10	Divide line 8 by lin	e 9					
	11	Enter the PARTIC	ULATE FACTOR		·			
	12	Multiply line 10 by	line 11		1	T	T	
	13	Noble Gas Dose F	actors	19.0	5.3	1.2	0.48	
	14	Multiply line 12 by	line 13					
		Enter (Line 5 mult		 				
	16	Add line 14 and 19 RATE (TEDE), mr	5 to obtain <b>TOTAL DOSE</b> em/hr					SNF
	17	Enter DURATION	from line 6, above					
	18	Multiply line 16 by <b>DOSE (TEDE)</b> , m	line 17 to obtain <b>TOTAL</b>					PAR
	19	Forward this work	sheet (or a copy) to the Eme	ergency Coo	rdinator (EOF	HP Manager	if done in EOI	=}
E.		Dose calculatio	ons completed; continue r END O		eleases and SHEET 5	assessing o	loses.	

REVIS	SION	I NO.:	PROCEDURE TITLE:	<u> </u>			PAGE:		
		6	OFF-SITE D	OSE CAL	CULATIO	NS	66	66 of 81	
ROC	EDI	JRE NO.:							
	E	PIP-09	ST. I		ANT	<u></u>			
			MANUAL DO	CHMENT SE CALC 6 of 10)	ULATION	l	NORKSHI Seabreez	EET 6 ze = NO	
۹.		Enter Meteorolo	gical Summary Data:						
			Wind Direction From		Affected Se	ectors			
в.			ogical Data Source(s) used:						
		ERDADS / Tow							
C.			Rate Method used: (if dual		dicate Meth	od for each	unit)		
0.		Grab Sample	Effluent M			HRRM	,		
		POST LOCA	Default		-	ttachment 1	0/12		
~			of data from release rate det	ormination:					
D.		Date and time o	or data irom release rate del			/			
		<u> </u>	Follow the instruc	tions to calc	ulate doses	@			
lir	ne	Instruction for TH	YROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles		
			RELEASE RATE, Ci/sec					SNF	
	2 Enter the WIND SPEED, mph							SNF	
	3	Divide line 1 by lir	ne 2						
	4	lodine Dose Facto	ors,	6.0 E + 04	1.7 E + 04	3.3 E + 03	9.5 E + 02		
	5	Multiply line 3 by DOSE RATE (CD	line 4 to obtain <b>THYROID</b> ), mrem/hr					SNF	
	6	Enter DURATION	l of release, hours					SNF	
	7	Multiply line 5 by THYROID DOSE	line 6 to obtain <b>PROJECTED</b> (CDE), mrem					PAR	
	ne	Instructions for T	DTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles		
-⊪			AS RELEASE RATE, Ci/sec					SNF	
	9		ED from line 2, above						
	10	Divide line 8 by li	ne 9						
	11	Enter the PARTIC	CULATE FACTOR						
	12	Multiply line 10 b	y line 11						
	13	Noble Gas Dose	Factors	19.0	5.3	1.0	0.30		
	14	Multiply line 12 b	y line 13			<u> </u>			
	15	Enter (Line 5 mu	Itiplied by 0.04)						
	16	Add line 14 and <b>Add line (TEDE)</b> , m	15 to obtain <b>TOTAL DOSE</b> nrem/hr					SNF	
	17	Enter DURATIO	N from line 6, above			_			
	18	Multiply line 16 b DOSE (TEDE), n	y line 17 to obtain <b>TOTAL</b> nrem					PAR	
[	19	Forward this wor	ksheet (or a copy) to the Emer	gency Coord	inator (EOF I	IP Manager	if done in EOF	;}	
Ε.		Dose calculation	ons completed; continue mo END OF	onitoring rele WORKSI		ssessing do	oses.		

RE	visio	N NO.:	PROCEDURE TITLE:		ROCEDURE TITLE:					
		6	OFF-SITE D	OSE CAL	CULATIO	NS	67	of 81		
PR	OCED	URE NO.:								
		EPIP-09	ST. I	UCIE PL	ANT					
			MANUAL DO	CHMENT SE CALC 7 of 10)	ULATION	l Class = D	VORKSHI Seabreez	EET 7 :e = NO		
A.		Enter Meteorolo	gical Summary Data:							
		UnitN	Wind Direction From		Affected Se	ectors				
в.		Circle Meteorolo	ogical Data Source(s) used:							
		ERDADS / Tow	er NOAA / NV	NS	D	efault				
c.		Circle Release	Rate Method used: (if dual	unit, then in	dicate Meth	od for each	unit)			
		Grab Sample	Effluent Mo	onitor	C	HRRM				
		POST LOCA	Default		A	ttachment 1	0 / 12			
D.		Date and time of	of data from release rate det	ermination:		/				
Ī	Follow the instructions to calculate doses @									
		1		1 Mile	2 Miles	@ 5 Miles	10 Miles			
			YROID DOSES (CDE) RELEASE RATE, Ci/sec		Zivilles	5 Willes	TO WINES	SNF		
	1	Enter the WIND S						SNF		
	2 3	Divide line 1 by lir								
	4	Iodine Dose Facto		1.7 E + 05	6.0 E + 04	1.7 E + 04	5.7 E + 03	<u></u>		
	5		line 4 to obtain THYROID					SNF		
	6	Enter DURATION						SNF		
	7		line 6 to obtain PROJECTED			·		PAR		
	line	Instructions for TO	DTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles			
	8	Enter NOBLE GA	S RELEASE RATE, Ci/sec					SNF		
	9	Enter WIND SPE	ED from line 2, above							
	10	Divide line 8 by li	ne 9							
	11	Enter the PARTIC	CULATE FACTOR							
ļ	12	Multiply line 10 by	y line 11		T	·····				
	13	Noble Gas Dose	Factors	53.0	19.0	5.3	1.8			
	14	Multiply line 12 b	y line 13	ļ						
	15	Enter (Line 5 mul								
	16	Add line 14 and 1 RATE (TEDE), m	15 to obtain TOTAL DOSE nrem/hr					SNF		
	17	Enter DURATION	I from line 6, above							
	18	DOSE (TEDE), n						PAR		
	19	Forward this wor	ksheet (or a copy) to the Emerg	gency Coordi	nator {EOF H	IP Manager i	done in EOF	}		
E		Dose calculation	ons completed; continue mo END OF	nitoring rele WORKSI		ssessing do	ses.			

REVI	SIOI	N NO.:	PROCEDURE TITLE:				PAGE:	_ <u></u>	
		6	OFF-SITE D	OSE CAL	CULATIO	NS	68	of 81	
PRO	CED	URE NO.:						0101	
	E	EPIP-09	ST.	LUCIE PL	ANT				
			MANUAL DO		ULATION		WORKSHI Seabreez		
А.		Enter Meteorolo	gical Summary Data:						
		Unit \	Nind Direction From		Affected Se	ectors			
в.		Circle Meteorolo	ogical Data Source(s) used:						
		ERDADS / Tow	er NOAA / N	NS	D	efault			
С.		Circle Release I	Rate Method used: (if dual	unit, then in	dicate Meth	od for each	unit)		
		Grab Sample	Effluent M	onitor	С	HRRM			
POST LOCA			Default		A	ttachment ?	10 / 12		
D.		Date and time of	f data from release rate def	termination:		/			
Follow the instructions to calculate doses @									
	no	Instruction for TH	(ROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles		
			RELEASE RATE, Ci/sec				L	SNF	
	2 Enter the WIND SPEED, mph							SNF	
┣─		Divide line 1 by lin			······································				
	4	Iodine Dose Facto		3.0 E + 05	1.2 E + 05	3.8 E + 04	1.4 E + 04		
	5	Multiply line 3 by I DOSE RATE (CD	ine 4 to obtain <b>THYROID</b> E), mrem/hr					SNF	
	6	Enter DURATION	of release, hours					SNF	
	7	Multiply line 5 by THYROID DOSE	ine 6 to obtain <b>PROJECTED</b> (CDE), mrem					PAR	
	ine	Instructions for TO	DTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles		
	8	Enter NOBLE GA	S RELEASE RATE, Ci/sec					SNF	
	9	Enter WIND SPE	ED from line 2, above						
	10	Divide line 8 by lin	ne 9						
	11	Enter the PARTIC	ULATE FACTOR						
	12	Multiply line 10 by	/ line 11	<u> </u>	r				
	13	Noble Gas Dose	Factors	94.0	39.0	12.0	4.5		
	14	Multiply line 12 by	y line 13						
	15	Enter (Line 5 mul	tiplied by 0.04)		ļ				
	16	Add line 14 and 1 RATE (TEDE), m	5 to obtain TOTAL DOSE prem/hr					SNF	
	17	Enter DURATION	from line 6, above						
	18	DOSE (TEDE), m						PAR	
	19	Forward this wor	ksheet (or a copy) to the Emer	gency Coordi	nator {EOF H	IP Manager i	f done in EOF	;}	
E.		Dose calculatio	ons completed; continue mo END OF	onitoring rele WORKSI		ssessing do	ISES.		

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		6	OFF-SITE D	OSE CAL	CULATIO	NS	60	69 of 81	
R	DCED	URE NO.:						0.01	
	E	EPIP-09	ST.	LUCIE PL	ANT				
					· ^				
			MANUAL DO	CHMENT SE CALC 9 9 of 10)	ULATION	ا Class = F	NORKSH Seabree	EET 9 ze = NC	
٩.		Enter Meteorolo	gical Summary Data:	,	•				
			Wind Direction From		Affected Se	ectors			
3.		Circle Meteorolo	ogical Data Source(s) used	:					
		ERDADS / Tow	er NOAA / N	ws	C	efault			
).		Circle Release	Rate Method used: (if dual	unit, then in	dicate Meth	od for each	unit)		
		Grab Sample	Effluent M			HRRM			
		POST LOCA	Default		A	ttachment 1	0/12		
).			of data from release rate de	termination:		/			
	. Date and time of data from release rate determination://								
			Follow the instruc	tions to calc	ulate doses	@			
	line	Instruction for TH	YROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles		
	1	Enter the IODINE	RELEASE RATE, Ci/sec					SNF	
	2	Enter the WIND S	PEED, mph		·			SNF	
	3	Divide line 1 by lin	ne 2						
	4	Iodine Dose Facto	ors,	5.3 E + 05	2.5 E + 05	7.9 E + 04	3.5 E + 04		
		Multiply line 3 by DOSE RATE (CD	line 4 to obtain <b>THYROID</b> E), mrem/hr					SNF	
	6	Enter <b>DURATION</b>	l of release, hours					SNF	
		Multiply line 5 by THYROID DOSE	line 6 to obtain <b>PROJECTED</b> (CDE), mrem					PAR	
	line	Instructions for T	DTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles		
	8		S RELEASE RATE, Ci/sec					SNF	
	9	Enter WIND SPE	ED from line 2, above						
	10	Divide line 8 by li	ne 9						
	11	Enter the PARTIC	CULATE FACTOR						
	12	Multiply line 10 by	y line 11						
	13	Noble GasDose I	Factors	1.7 E + 02	7.8 E + 01	2.5 E + 01	1.1 E + 01		
	14	Multiply line 12 b	y line 13						
	15	Enter (Line 5 mul	tiplied by 0.04)					· · · · · · · · · ·	
	16	Add line 14 and 1 RATE (TEDE), m	15 to obtain TOTAL DOSE nrem/hr					SNF	
	17	Enter DURATION	N from line 6, above						
	18	Multiply line 16 b DOSE (TEDE), n	y line 17 to obtain <b>TOTAL</b> nrem					PAR	
	19	Forward this wor	ksheet (or a copy) to the Emer	rgency Coord	inator (EOF I	IP Manager i	f done in EOF	}	

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		6	OFF-SITE DO	OSE CAL	CULATIO	NS	70	of 81
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			MANUAL DO	<b>CHMENT</b> <b>SE CALC</b> 10 of 10)	ULATION	V Class = G	/ORKSHE Seabreez	ET 10 e = NO
А.		Enter Meteorolo	ogical Summary Data:					
		Unit	Wind Direction From		Affected Se	ectors		
в.		Circle Meteorolo	ogical Data Source(s) used:					
		ERDADS / Tow	er NOAA / NV					
c.		Circle Release	Rate Method used: (if dual	unit, then in				
		Grab Sample	Effluent Mo	onitor				
	POST LOCA		Default		А	ttachment 1	0 / 12	
D.		Date and time of	of data from release rate det	ermination:		/		
IF			Follow the instruct		······			<u></u>
╏╟	line		YROID DOSES (CDE)	1 Mile	2 Miles	5 Miles	10 Miles	
			RELEASE RATE, Ci/sec	TWINC	2 111100	o miloo		SNF
		Enter the WIND S						SNF
		Divide line 1 by lin						
		Iodine Dose Facto		9.1 E + 05	4.7 E + 05	1.8 E + 05	7.9 E + 04	
			line 4 to obtain THYROID					SNF
	6	Enter DURATION	of release, hours					SNF
	7	Multiply line 5 by THYROID DOSE	line 6 to obtain PROJECTED (CDE), mrem					PAR
	line	Instructions for T	OTAL DOSES (TEDE)	1 Mile	2 Miles	5 Miles	10 Miles	
	8		AS RELEASE RATE, Ci/sec					SNF
	9	Enter WIND SPE	ED from line 2, above					
	10	Divide line 8 by li	ne 9					
	11	Enter the PARTI	CULATE FACTOR					
	12	Multiply line 10 b	y line 11		I	T		
	13	Noble Gas Dose		2.9 E + 02	1.5 E + 02	5.7 E + 01	2.5 E + 01	
	14	Multiply line 12 b			ļ			
	15	Enter (Line 5 mu				<b></b>		ONE
	16	Add line 14 and <b>RATE (TEDE)</b> , n	15 to obtain TOTAL DOSE nrem/hr					SNF
	17		N from line 6, above	r		1		
	18	DOSE (TEDE), r						PAR
	19	Forward this wor	ksheet (or a copy) to the Emer	gency Coordi	nator {EOF H	IP Manager i	f done in EOF	}
E	•	Dose calculati		nitoring rele WORKSH ATTACHN	EET 10	ssessing do	ses.	

Purpo This a perso	9 RESPOI	OFF-SITE DOSE CALCULATIONS ST. LUCIE PLANT ATTACHMENT 10 NDING TO AN UNMONITORED CONTAINMENT BUR (Page 1 of 6)	71 of 81 <u>P</u>
EPIP-0 E Purpo This a perso	9 RESPOI	ATTACHMENT 10 NDING TO AN UNMONITORED CONTAINMENT BUR	
Purpo This a perso	<b>RESPO</b>	ATTACHMENT 10 NDING TO AN UNMONITORED CONTAINMENT BUR	<u> </u>
Purpo This a perso	se	NDING TO AN UNMONITORED CONTAINMENT BUR	<u>P</u>
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RTM-	nnel to	ent provides methods for TSC and/or EOF Dose Asses define release rates from a containment burp and inclu- nods for estimating dose rates based on plant/reactor c	des NRCs
Discu	ssion		
Α.	may b decrea detern equipr	e indicated by a rapid decrease of the containment pres ase in the Containment High Range Radiation Monitor t nined, by operations or engineering, not due to changes ment operation (e.g., additional containment spray, add	ssure or rapid hat is s in
В.	this ap provid	opendix includes conservative assumptions and is inten the means to estimate an upper bound to the release	ded to
Conte	ents		
Section	on 1:	resulting from rapid containment depressurizations; the	at is, an
		Case 1 - Rapid decrease in CHRRM reading during bu	urp
		Case 2 - No change in CHRRM reading during burp	
		Case 3 - Increase in CHRRM reading during burp	
Secti	on 2:		
	B. Conte Sectio	may b decrea detern equipr contai <b>B.</b> It mus this ap provid	<ul> <li>may be indicated by a rapid decrease of the containment press decrease in the Containment High Range Radiation Monitor t determined, by operations or engineering, not due to changes equipment operation (e.g., additional containment spray, addicontainment coolers, etc.).</li> <li>B. It must be remembered and understood that the methodology this appendix includes conservative assumptions and is intenprovide the means to estimate an upper bound to the release exact release rate.</li> <li>Contents</li> <li>Section 1: Provides guidance in estimating release rates during a resulting from rapid containment depressurizations; the unmonitored burp release. The guidance is further sult three cases:</li> <li>Case 1 - Rapid decrease in CHRRM reading during burp Case 3 - Increase in CHRRM reading during burp</li> </ul>

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	6		OFF-SITE DOSE CALCULATIONS	70 -5 04
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		RESP	ATTACHMENT 10 ONDING TO AN UNMONITORED CONTAINMENT B (Page 2 of 6)	URP
4.	Basis			
	Sectio			
	56010	Assum Assum 2 E + ( from E 6.43 E	nes CHRRM is responding only to Noble Gases nes Curies in (from core) < < Curies lost 06 R/hr = 100% Core Inventory of Noble Gas (1 ÷ CF <sub>T</sub> PIP-09) + 08 Curies of Noble Gas is 100% Core Inventory (P3 6.43 E + 08 Curies ÷ 2 E + 06 R/hr	
	Section	on 2:		
		NRC's	Response Technical Manual RTM-91 Vol. 1, Rev. 1,	pg. C-2.
5.	Perce	ent Mas	s Loss	
	А.		ttachment 11, Estimate of Containment "% Mass Loss nine the values required in the following calculations.	s", to

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	6	OFF-SITE DOSE CALCULATIONS	73 of 81
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	RESPO	ATTACHMENT 10 ONDING TO AN UNMONITORED CONTAINMENT BU (Page 3 of 6)	IRP
	Sec	tion 1 - Case 1: <u>Rapid Decrease in CHRRM Reading</u> (Applicable to Unit 1 or Unit 2)	9
	1. A CHRRM decay.	<u>NOTE</u> I drop of about 3 percent per hour may be due to radio	logical
		RM may drop by as much as 10 percent very quickly if ent spray is actuated due to lodine washout.	
1.	Enter date and	l time of data://	
2.	Calculate Delta	a-CHRRM:	
	Start CHRRM	End CHRRM = Delta-CHRRM, F	₹/hr
3.	Calculate Dura	ation:	
	A. Clock	Time End Clock Time Start = Delta	a-Clock
	B. Conve	rt Delta-Clock to Delta-Seconds: $\_\_\_\_ \Delta$ sec	
4.	Estimate Curie	es Lost:	
	Delta CHRRM	1 x 322 Ci N.G. per R/hr = Noble Gas Curies	s Lost
5.	Estimate Nobl	e Gas Release Rate (loss rate):	
	Noble Gas Cu	ries lost $\div$ $\triangle$ sec = Noble Gas Ci/se	C
6.	Estimate the l	odine Release Rate:	
	N.G. Ci/sec	x 0.01 (lodine Factor) = lodine Ci/sec	
7.		rent meteorological conditions and appropriate Dose Calcula r enter as Direct if using the computer, to estimate Offsite D	
		END OF CASE 1	

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	6	OFF-SITE DOSE CALCULATIONS	74 of 81		
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	RESP	ATTACHMENT 10 ONDING TO AN UNMONITORED CONTAINMENT BU (Page 4 of 6)	JRP		
		Section 2 - Case 2: <u>Constant CHRRM Reading</u> (Applicable to Unit 1 or Unit 2)			
	Engineering burp.	<u>NOTE</u> may be requested to evaluate the percent mass lost in	the		
1.	Enter date and	d time of data://			
2.	Estimate Nobl	le Gas Curies in the containment:			
	CHRRM R/hr	x 322 Ci N.G. per R/hr = Noble Gas Curies	in can		
3.	Calculate Dur	ation:			
	A. Clock	Time End Clock Time Start = Delt	a-Clock		
	B. Conve	ert Delta-Clock to Delta-Seconds: $\triangle$ sec			
4.	Estimate Curi	es Lost:			
	A. Deterr	nine "% Mass Loss" (Attachment 11)			
	B. N.G. C Curies	Curies in can x % mass lost ÷ 100 = s lost	Noble Gas		
5.	Estimate Nob	le Gas Release Rate (loss rate):			
	Noble Gas Curies lost ÷ △ sec = Noble Gas Ci/sec				
6.	Estimate the	e Iodine Release Rate:			
	N.G. Ci/sec	x 0.01 (lodine Factor) = lodine Ci/sec			
7.	Utilize the cu Worksheets	urrent meteorological conditions and appropriate Dose or enter as Direct if using the computer, to estimate Of	Calculation ffsite Doses.		
		END OF CASE 2			

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	RESP	ATTACHMENT 10 PONDING TO AN UNMONITORED CONTAINMENT B (Page 5 of 6)	URP
		Section 1 - Case 3: Increasing CHRRM Reading (Applicable to Unit 1 or Unit 2)	
	Engineering burp.	NOTE I may be requested to evaluate the percent mass lost in	n the
1.	Enter date ar	nd time of data://	
2.	Calculate ave	erage CHRRM reading	
	(Start CHRR	M + End CHRRM) ÷ 2 = Avg CHRF	RM, R/hr
8.	Estimate Nol	ble Gas Curies in the containment:	
	Avg. CHRRM	/l R/hrx 322 Ci N.G. per R/hr =Noble Gas Cu	ries in can
<b>i</b> .	Calculate Du	uration:	
	A. Clock	< Time End Clock Time Start = De	elta-Clock
	B. Conv	vert Delta-Clock to Delta-Seconds: $\triangle$ sec	
5.	Estimate Cu	ries Lost:	
	A. Dete	rmine "% Mass Loss" (Attachment 11)	
	<b>B.</b> N.G.	Curies in canx% mass lost ÷ 100 =Nob	le Gas Curies los
6.	Estimate N	oble Gas Release Rate (loss rate):	
	Noble Gas	Curies lost $\div$ $\triangle$ sec = Noble G	as Ci/sec
7.	Estimate th	ne lodine Release Rate:	
	N.G. Ci/see	c x 0.01 (lodine Factor) = lodine Ci/sec	<b>;</b>
8.	Utilize the Worksheet	current meteorological conditions and appropriate Dos is or enter as Direct if using the computer, to estimate (	e Calculation Offsite Doses.

**REVISION NO.:** 

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6

ST. LUCIE PLANT

**OFF-SITE DOSE CALCULATIONS** 

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# ATTACHMENT 10

**RESPONDING TO AN UNMONITORED CONTAINMENT BURP** 

(Page 6 of 6)

### **SECTION 2**

(Applicable to Unit 1 or Unit 2)

Use this method IF there is not radiological data (e.g., CHRRM, containment grab sample, etc.) AND the accident has progressed past gap failure AND the containment has undergone catastrophic failure (e.g., know there should be pressure and there is none).

**NOTE** The following method provides DOSES, not release rates. Doses based on stability class D and four m.p.h. wind speed.

# REACTOR ACCIDENT CONSEQUENCE OVERVIEW Containment Leakage

Core	Containment	Mitigating System	Acute Dose (rem) 1 hour Release @ 1 mile <sup>(B)</sup>		
Condition	Status	Status <sup>(A)</sup>	WB	THY	
	Early total	No Mitigation	1000+	10 <sup>5</sup> +	
	Failure (< 1 hr)	Mitigated	250	10 <sup>4</sup>	
MELT Release From Core	Late total failure (2 - 12 hr)	N/A	250	10 <sup>4</sup>	
4500°F	Major Leakage (100% / day)	N/A	10	10 <sup>3</sup>	
	Design leakage	N/A	10 <sup>-2</sup>	1	
	Early total	No Mitigation	50	10 <sup>4</sup>	
	Failure (< 1 hr)	Mitigated	10	10 <sup>3</sup>	
Gap Release From Core	Late total failure (2 - 12 hr)	N/A	5	10 <sup>3</sup>	
1500°F	Major Leakage (100% / day)	N/A	10 <sup>-1</sup>	10	
	Design Leakage	N/A	10-4	10 <sup>-2</sup>	

Notes: (A) Sprays, filters

(B) 1 hour cloud immersion and inhalation plus 3 hours of ground shine

# **END OF SECTION 2**

#### **END OF ATTACHMENT 10**

	ON NO.:	1.	ROCEDURE	TITLE:					PAGE:
	6		(	OFF-SITE	DOSE	CALCUL	ATIONS		77 of 81
ROCE	DURE NO	).:							
	EPIP-09			S	T. LUCIE	E PLANT			
		¶2	<u>estima</u>	TE OF CC	TACHME DNTAINN (Page 1 o	<u>//ENT "%</u>	MASS L	<u> 088"</u>	
				(Applicab	ole to Uni	it 1 or Uni	it 2)		
•	Purp	ose							
	mass	s release	to the env	culation is vironment ent (conta	during a	post-LO	nod to est CA contai	imate c inment	ontainment %
•	Discu	ussion							
	Α.	The sc	ope of this	s calculati	ion is St.	Lucie Un	its 1 and	2.	
	В.	The do	se assess	sment aro	up can u	se the co	ontainmen	t mass	release data
		to estin TSC/E Unmor	nate the ra OF Dose	adiation re Assessme	elease to ent Guida	the envi ance for l	Respondiı	ng to ar	adiological
	C.	to estin TSC/E Unmor conditio The co 5.0 psi not acc	nate the ra DF Dose itored Co ons are kr ntainmen change), curately cr	adiation re Assessme Intainmen nown. t de-press over a sh redit the e	elease to ent Guida t Burp) p surizatior nort perio	the envir ance for F rovided the event she d of time	Respondir he contair nould be la since the	ng to ar nment r arge (gi metho	n adiological reater than dology does
3.	C.	to estin TSC/E Unmor conditio The co 5.0 psi not acc	nate the ra DF Dose itored Co ons are kr ntainmen change),	adiation re Assessme Intainmen nown. t de-press over a sh redit the e	elease to ent Guida t Burp) p surization fort perio	the envir ance for F rovided th event sh d of time containme	Respondir he contair nould be la since the	ng to ar nment r arge (gi metho	n adiological reater than dology does
3.	<b>C</b> . Acqu The	to estin TSC/E Unmor conditio The co 5.0 psi not acc uire the fo	nate the ra DF Dose itored Co ons are kr ntainmen change), urately cr llowing da n" for dat	adiation re Assessme Intainmen nown. t de-press over a sh redit the e	elease to ent Guida t Burp) p surization nort perio effect of o <u>NOTE</u> ation sho	the envir ance for F rovided the event shad of time containme	Respondin he contair nould be la since the ent heat re	ng to ar nment r arge (g metho emoval	adiological reater than dology does systems.
3.	<b>C</b> . Acqu The	to estin TSC/E Unmor conditio The co 5.0 psi not acc uire the fo "time spa ulation or Contai	nate the ra DF Dose itored Co ons are kr ntainmen change), urately cr llowing da ntainment Pre	adiation re Assessme Intainmen nown. t de-press over a sh redit the e ata: ta observa lent 4, Cas essure jus	elease to ent Guida t Burp) p surization fort perio effect of o <u>NOTE</u> ation sho se 2 or 3 st before	the envir ance for F rovided the ontainme uld be the blowdow	Respondin he contair hould be la since the ent heat re e same as	ng to ar nment r arge (g metho emoval	adiological reater than dology does systems.
3.	<b>C</b> . Acqu The calcu	to estin TSC/E Unmor conditio The co 5.0 psi not acc uire the fo "time spa ulation or Contai transie Contai	nate the ra DF Dose itored Co ons are kr ntainmen change), urately cr llowing da n" for dat <u>Attachm</u> nment Pro nt:	adiation re Assessme Intainmen nown. t de-press over a sh redit the e ata: ta observa ent 4, Cas essure jus	elease to ent Guida t Burp) p surization nort perio effect of o <u>NOTE</u> ation sho se 2 or 3 st before e just be	the envir ance for F rovided the ontainme uld be the blowdow	Respondin he contair hould be la since the ent heat re e same as n down	ng to ar nment r arge (g methor emoval	adiological reater than dology does systems.
3.	C. Acqu The calco A.	to estin TSC/E Unmor conditio The co 5.0 psi not acc uire the fo "time spa ulation or Contai transie Contai transie	nate the ra DF Dose itored Co ons are kr ntainmen change), urately cr llowing da n" for dat <u>Attachm</u> nment Pro nt: nment Te nt:	adiation re Assessme Intainmen nown. t de-press over a sh redit the e ata: ta observa ent 4, Cas essure jus emperature essure jus	elease to ent Guida t Burp) p surization nort perio effect of o <u>NOTE</u> ation sho se 2 or 3 st before e just be st after b	the envir ance for F rovided the ontainme uld be the blowdown	Respondin he contair hould be la since the ent heat re e same as n down	ng to ar nment r arge (g metho emoval	adiological reater than dology does systems. for the psig {P <sub>start</sub> }

	ION NO.:	PROCEDURE TITLE:	PAGE:
	6	OFF-SITE DOSE CALCULATIONS	
ROC	EDURE NO.:		78 of 81
	EPIP-09	ST. LUCIE PLANT	
		ATTACHMENT 11 ESTIMATE OF CONTAINMENT "% MASS LOSS" (Page 2 of 2)	
		(Applicable to Unit 1 or Unit 2)	
4.	Estimate Init	ial Containment Atmosphere Density:	
		$\frac{144 \text{ x } (14.7 + \dots, P_{\text{start}})}{53.3 \text{ x } (460 + \dots, T_{\text{start}})} = \_\_\_ \text{Initial Density}$	
5.	Estimate En	d Containment Atmosphere Density:	
		<u>144 x (14.7 +P<sub>end</sub>)</u> 53.3 x (460 +T <sub>end</sub> ) = End Density	
6.	Estimate %	Mass Lost:	
	(1 mini	us (End Density)) x 100 =% mass lost	
		END OF ATTACHMENT 11	

	ION NO.:	PROCEDURE TITLE:	PAGE:
	6	OFF-SITE DOSE CALCULATIONS	
ROCE	EDURE NO.:		79 of 81
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3	Team survey n	ATTACHMENT 12 FIELD TEAM MEASUREMENTS ASSESSMENT (Page 1 of 3) Int provides methods to estimate a release rate from Fie meter measurements and provides guidance on compar is to dose projections.	ld Monitoring ing field
	Survey mete centerline; th	<u>NOTE</u> or Gamma (closed window) results must be from plume that is, the maximum value from a lateral transverse of th	e
1.	DATE:	, TIME:, Unit:	
2.		meter measurement was at 1 mile value, <u>Then</u> go to St	ер 4.
3.	Estimate the	1 mile value:	
	Estimated 1 Where	mile value = Survey meter results x (downwind distance e the exponent <b>Z</b> = 2 for Stability Class A, B 1.5 for Stability Class C, D 1.0 for Stability Class E, F, G	e, miles) <sup>z</sup>
	meter results	x downwind distance (Z) =Estimate d Dose Ra	te @ 1 mile mr/hr
4.		eorological conditions at time of sampling, select the Dos Worksheet (DCW).	se
	A. Use V	Vind Speed in Miles Per Hour, mph	
	В. Сору	from Line 13, the 1 mile Dose factor as the DF for use i	n Step 5.
5.	Estimate No	ble Gas Release Rate: Estimated 1 mile mr/hr $\div$ DF x \	Wind Speed
		_mr/hr xmph DF	200

EVIS	ON NO.:	PROCEDURE TITLE:	PAGE:
	6	OFF-SITE DOSE CALCULATIONS	80 of 81
ROCE	EDURE NO.: EPIP-09	ST. LUCIE PLANT	
		ATTACHMENT 12 FIELD TEAM MEASUREMENTS ASSESSMI (Page 2 of 3)	ENT
-	Estimate lodi Monitor Work	ne Release Rate (IF = lodine Factor, see the a (sheet):	ffected units' Effluent
	N.G.	Ci/sec x(IF) =lodine (131 Deq)	Ci/sec
-	Worksheets,	rrent meteorological conditions and appropriate or enter release rates as Direct if using the cor s from this attachment.	e Dose Calculation mputer, to estimate
	<u>(</u>	Comparing Field Measurements To Dose Proje	ections
	2. A survey	team measurements `off centerline' will yield a	low estimated
<u>Surv</u>	release ra estimating rey Meter DDE The compute DDE and for descriptions in plume of N	ate. The Field Monitoring Coordinator (EOF) has g centerline values for these situations. Readings erized dose calculation program estimates the ` the pre-designated sampling locations (refer to of the locations). This Survey Meter Estimate Noble Gas, and plume shine from iodine & parti	as a method for Survey meter reading Field Survey Map fo is sum of immersion iculates. The noble
<u>Surv</u>	release ra estimating rey Meter DDE The compute DDE and for descriptions in plume of N gasses are t	ate. The Field Monitoring Coordinator (EOF) has <u>g centerline values for these situations.</u> <u>Readings</u> erized dose calculation program estimates the the pre-designated sampling locations (refer to of the locations). This Survey Meter Estimate	as a method for Survey meter reading Field Survey Map fo is sum of immersion iculates. The noble am adjusts for gap

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ST. LUCIE PLANT

**OFF-SITE DOSE CALCULATIONS** 

# ATTACHMENT 12 FIELD TEAM MEASUREMENTS ASSESSMENT

(Page 3 of 3)

Thyroid CDE

Thyroid dose projections, both procedure & computer, are based on a release of I-131 Deq Ci/sec. The field teams measure I-131 in the plume; their procedure has a time dependent factor to account for the dose from the other iodines. The factor starts at about 1.4 and decays to 1 (one) over about 24 hours. Dividing projected thyroid dose rate, mr/hr by 1.3 E + 9 will estimate the lodine 131(Deq) concentration uCi/cc.

### Time of Sample v. Time of Release

Time of field measurement minus (downwind distance, miles / wind speed, m.p.h.) will yield the `time' of the release rate estimated. The computerized calculations use a time window 15 or 30 minutes long. Select the latest printout that has a Release Observation Time before the time estimated above.

Estimating Dose Rates Or Concentrations At Other Distances (e.g., 1, 2, 5, 10 miles)

Estimated Value @ Dist x = Measured value times  $(DWD/Dist x)^z$ Where: DWD = Measurement downwind distance, miles Dist x = other distance, miles Z = exponent based on stability class (ref EPA-520 Rev. 6/79, page 5.10.)

# **END OF ATTACHMENT 12**

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Entergy Operations, Inc. 1448 S.R. 333 Russellville, AR 72802 Tel 501 858 5000

0CAN020201

February 15, 2002

U. S. Nuclear Regulatory Commission Attn: Document Control Desk Washington, DC 20555

Subject: Arkansas Nuclear One - Units 1 and 2 Docket Nos. 50-313 and 50-368 License Nos. DPR-51 and NPF-6 Monthly Operating Report

Dear Sir or Madam:

Arkansas Nuclear One (ANO), Units 1 and 2 Technical Specifications 6.12.2.3 and 6.9.1.6, respectively, require the submittal of a Monthly Operating Report. The purpose of this letter is to complete the reporting requirement for January 2002. Also, in accordance with ANO Units 1 and 2 Technical Specifications 6.12.2.4 and 6.9.1.5.c, respectively, and NUREG-0737, Item II.I.3.3, attached is the 2001 Annual Report of Failures and Challenges to Pressurizer Safety Valves.

Sincerely,

Alam R. ashley

Glenn R. Ashley Manager, Licensing

GRA/SLP Attachment 0CAN020201 Page 2

î.-

cc: Mr. Ellis W. Merschoff Regional Administrator U. S. Nuclear Regulatory Commission Region IV 611 Ryan Plaza Drive, Suite 400 Arlington, TX 76011-8064

> NRC Senior Resident Inspector Arkansas Nuclear One P.O. Box 310 London, AR 72847

U. S. Nuclear Regulatory Commission Attn: Mr. William D. Reckley MS O-7 D1 Washington, DC 20555-0001

U. S. Nuclear Regulatory Commission Attn: Mr. Thomas W. Alexion MS O-7 D1 Washington, DC 20555-0001

### **OPERATING DATA REPORT**

DOCKET NO.50-313UNIT NAMEArkansas Nuclear One - Unit 1DATEFebruary 15, 2002COMPLETED BYSteven L. CoffmanTELEPHONE(479) 858-5560

**REPORTING PERIOD:** January 2002

- 1. Design Electrical Rating (MWe-Net): 850
- 2. Maximum Dependable Capacity (MWe-Net): 836
- 3. Number of Hours Reactor Was Critical
- 4. Number of Hours Generator On-Line
- 5. Unit Reserve Shutdown Hours
- 6. Net Electrical Energy Generated (MWh)

YR-TO-DATE	CUMULATIVE
744.0	185,345.4
744.0	182,689.2
0.0	817.5
641,938	139,893,647
	744.0 744.0 0.0

#### **UNIT SHUTDOWNS**

<u>No.</u>	<u>Date</u>	Type F: Forced <u>S: Scheduled</u>	Duration (Hours)	Reason <sup>1</sup>	Method of Shutting <u>Down</u> <sup>2</sup>	Cause & Corrective Action <u>Comments</u>
None						

SUMMARY: The Unit operated the entire month at full power.

Note: There were no challenges to the primary system code safeties nor automatic actuations of the electromatic relief valve during the year 2001 reporting period.

1

Reason:

- A Equipment Failure (Explain)
- **B** Maintenance or Test
- C Refueling
- D Regulatory Restriction
- E Operator Training & License Examination
- F Administration
- G Operational Error (Explain)
- H Other (Explain)

- 2
- Method:
- 1 Manual
- 2 Manual Trip/Scram
- 3 Automatic Trip/Scram
- 4 Continuation
- 5 Other (Explain)

### **OPERATING DATA REPORT**

DOCKET NO.	50-368
UNIT NAME	Arkansas Nuclear One - Unit 2
DATE	February 15, 2002
COMPLETED BY	Steven L. Coffman
TELEPHONE	(479) 858-5560

**REPORTING PERIOD:** January 2002

- 1. Design Electrical Rating (MWe-Net):
- 2. Maximum Dependable Capacity (MWe-Net): 858
- 3. Number of Hours Reactor Was Critical
- 4. Number of Hours Generator On-Line
- 5. Unit Reserve Shutdown Hours
- 6. Net Electrical Energy Generated (MWh)

<u>MONTH</u>	YR-TO-DATE	CUMULATIVE 154,377.3 151,880.5	
744.0	744.0		
744.0	744.0		
0.0	0.0	0.0	
692,417	692,417	128,880,527	

#### UNIT SHUTDOWNS

912

<u>No.</u>	Date	Type F: Forced <u>S: Scheduled</u>	Duration <u>(Hours)</u>	<u>Reason</u> 1	Method of Shutting <u>Down</u> <sup>2</sup>	Cause & Corrective Action <u>Comments</u>
None						

SUMMARY: The Unit began the month at full power. On 01/26/2002, power was reduced to  $\sim$ 96% to perform an on-line modification to the Heater Drain Pump. The Unit operated at  $\sim$ 96% power for the remainder of the month.

Note: There were no challenges to the primary system code safeties nor automatic actuations of the low temperature overpressure protection valves during the year 2001 reporting period.

1

 $\overline{r}$ 

#### Reason:

- A Equipment Failure (Explain)
- **B** Maintenance or Test
- C Refueling
- D Regulatory Restriction
- E Operator Training & License Examination
- F Administration
- G Operational Error (Explain)
- H Other (Explain)

- 2
  - Method:
    - 1 Manual
    - 2 Manual Trip/Scram
    - 3 Automatic Trip/Scram
    - 4 Continuation
    - 5 Other (Explain)