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AMEREN/UE  
DOCUMENT CONTROL SYSTEM  
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TRANSMITTAL NUMBER: 457089  
TO CONTROL NUMBER: 338U  
TITLE: OTHER  
DEPT: NUCLEAR REGULATORY COMM.  
LOCATION: USNRC - WASH DC  
TRANSMITTAL DATE: 20001227

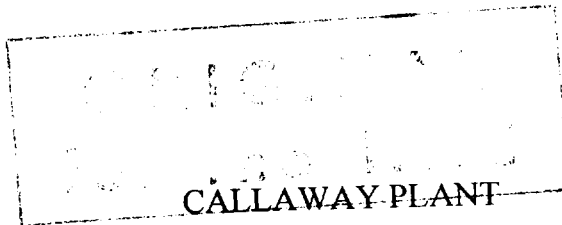
RETURN ACKNOWLEDGED TRANSMITTAL AND  
SUPERSEDED DOCUMENTS (IF APPLICABLE) TO:  
ADMINISTRATION RECORDS  
AMEREN/UE  
CALLAWAY PLANT  
P.O. BOX 620  
FULTON, MO 65251

TRAN	DOC				RET			ALT	ALT	
CODE	TYPE	DOCUMENT	NUMBER	REV	REV	MED	COPY	MED	COPY	AFFECTED DOCUMENT
R	PROC	EIP-ZZ-00213		019	018	C	1			
R	PROC	EIP-ZZ-00220		013	012	C	1			

ACKNOWLEDGED BY:

DATE:

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EIP-ZZ-00213  
Revision 019  
November 29, 2000

## EMERGENCY PLAN IMPLEMENTING PROCEDURE

EIP-ZZ-00213

### TECHNICAL ASSESSMENT

RESPONSIBLE DEPARTMENT Emergency Preparedness

PROCEDURE OWNER W. R. Bevard

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DATE ISSUED 12-27-00

This procedure contains the following:

Pages	<u>1</u>	through	<u>6</u>
Attachments	<u>1</u>	through	<u>4</u>
Tables	<u>          </u>	through	<u>          </u>
Figures	<u>          </u>	through	<u>          </u>
Appendices	<u>          </u>	through	<u>          </u>
Checkoff Lists	<u>          </u>	through	<u>          </u>

This procedure has            checkoff list(s) maintained in the mainframe computer.

Conversion of commitments to TRS reference/hidden text completed by Revision Number:

Non-T/S Commitments 016

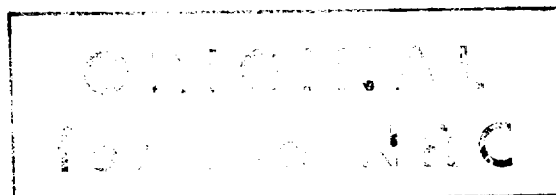


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## TECHNICAL ASSESSMENT

### 1 PURPOSE AND SCOPE

- 1.1 To provide guidance to the Technical Support Center (TSC) engineering staff in performing technical assessment and maintaining plant status boards during an emergency. Also provides guidance for actions necessitated in the event of Plant Computer System (PCS) failure.

### 2 RESPONSIBILITIES

#### 2.1 TECHNICAL ASSESSMENT COORDINATOR

- 2.1.1 The Technical Assessment Coordinator (TAC):

- 2.1.1.1 The TAC reports to the Emergency Coordinator (EC). The TAC is responsible for technical assessment of Plant conditions to identify EALs and emergency mitigating recommendations to the EC. The TAC is also responsible for coordinating Protective Action Recommendations (PARs) consistent with Plant Conditions with the Recovery Manager and Dose Assessment Coordinator in the EOF prior to the arrival of the Protective Measures Coordinator (PMC) or Plant Assessment Coordinator (PAC). **(COMN 3333)**

- 2.1.1.2 Provides the TSC Engineering Staff with direction and control.

- 2.1.1.3 Ensures coordination with other groups and sources of information.

- 2.1.1.4 Provides oversight and direction of the TSC until the EC arrives.

#### 2.2 TSC LEAD ENGINEER (TLE)

- 2.2.1 The TLE reports to the Technical Assessment Coordinator in the TSC. The TLE is responsible for assisting the TAC in directing and controlling the Engineering staff. **(COMN 3351)**

2.3      TSC ENGINEERING STAFF

The TSC Engineering Staff reports to the Technical Assessment Coordinator in the TSC. They are responsible for diagnosing and analyzing potential and actual Plant problems, and providing recommended courses of action to the Technical Assessment Coordinator. These responsibilities include; assessment of core physics, thermal hydraulics, and general plant conditions. They may be dispatched to Plant areas for surveillance purposes as directed by the Technical Assessment Coordinator.

2.4      ENGINEERING STATUS BOARD LOGKEEPERS (ESL)

2.4.1      The ESLs report to the TAC and are responsible for maintaining the logs and status boards for the Technical Assessment Group.

3      PROCEDURE

3.1.1      Place the TSC HVAC system in recirculation per **OOA-UB-00005**.

3.1.2      Use **EIP-ZZ-00217** to activate the Emergency Response Data System (ERDS) as soon as possible, but NOT later than one hour after a declared plant Alert or higher emergency, The ERDS can be activated from the Control Room or from the Technical Support Center Plant Computer terminals. (**COMN 42625**)

3.1.3      Develop strategies, using Severe Accident Management Guidelines (SAMGs), for severe accident conditions.

3.1.4      Evaluate the condition of the Reactor Core using: (**COMN 42534**)

- a.      Radiation Monitoring System.
- b.      Plant instrumentation and Plant Computer System.
- c.      Post Accident Sampling System.

- 3.1.5 Assess essential safety-related systems using:
  - a. Appropriate Callaway Plant drawings.
  - b. Plant Operating/Emergency, Engineering, I & C, and Maintenance procedures, and Severe Accident Management Guidelines.
  - c. The Plant Computer System or parameters as given through communications.
  - d. The Callaway Plant Final Safety Analysis Report and Callaway Technical Specifications.
  - e. Equipment technical manuals.
  - f. Information obtained from other sources.
- 3.1.6 Assist the Control Room staff by relieving the reactor operators of peripheral duties such as:
  - a. Plotting key parameters to backup or assist in trend analysis, as requested.
  - b. Evaluating the adequacy of natural circulation flow or heat sink efficiency.
- 3.1.7 Coordinate the design and installation of temporary modifications.
- 3.1.8 Recommend any changes to plant operations to mitigate damage or to place the plant in a safe mode of operation.
- 3.1.9 Dispatch engineers to plant areas for surveillance purposes or to assist repair teams as required. **(COMN 3351)**
- 3.1.10 Assist in the preparation of emergency repairs including material suitability and/or procedure preparation.
- 3.1.11 Monitor Emergency Action levels per **EIP-ZZ-00101**, Classification of Emergencies.
- 3.1.12 Prior to the arrival of the Protective Measures Coordinator (PMC) and the Plant Assessment Coordinator (PAC) to the EOF, monitor criteria for protective action recommendations per **EIP-ZZ-00212**, Protective Action Recommendations.

3.1.13 Provide an estimation of radiological release duration and core damage assessment to the Health Physics Coordinator, Dose Assessment Coordinator and Emergency Coordinator.

3.1.14 Upon entry into the recirculation phase of RHR:

3.1.14.1 Direct the Chemistry Coordinator to obtain samples from the RWST once every 12 hours, using **CSP-ZZ-07540**.

<p><u><b>NOTE:</b></u> Local samples should be taken from BN-V-0023 and BN-V-0029. Increased activity indicates valve leakage back to the RWST.</p>
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3.1.14.2 Inform the Health Physics Coordinator of probable increase in Auxillary Building radiation levels and have him inform any Teams in the field.

3.1.14.3 Inform the Health Physics Coordinator of possible valve leakage to the RWST so that Health Physics support for sampling, sample counting, and possible release calculations can be arranged.

## 3.2 MAINTAINING THE PLANT STATUS BOARDS

3.2.1 Maintain the plant status boards using the Plant Computer.

3.2.1.1 Call up the plant status boards displays on the Plant Computer to obtain plant status. The information needed to maintain the plant status boards is contained on these displays.

3.2.1.1.1 On the Plant Computer command line enter PSB (Plant Status Board). This brings up the first screen and from that you can move to the next screen.

3.2.1.1.2 Either print each display or, if the printer is inoperable, transfer the data to Attachment 1, Plant Status Board.

3.2.1.2 If data points are not available on the PSB displays, they can be obtained from the Plant Computer using Attachment 3.

<p><u><b>NOTE:</b></u> A cross reference of the information required for the status board with Plant Computer data points is available by using Attachment 2, Plant Status Board Key and Attachment 3, Plant Status Board / Plant Computer Cross Reference.</p>
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- 3.2.1.3 If the PSB data is questionable Attachment 4 may be used to compare redundant but sometimes less desirable data. If data remains questionable the data should be annotated with a question mark to indicate the data is questionable. (SOS 97-0904 )
- 3.2.2 If the Plant Computer is inoperable.
- 3.2.2.1 The Technical Assessment Coordinator should designate and direct the necessary individuals to report to the Control Room and provide regular plant status board updates. (SOS 97-0904 )
- 3.2.2.1.1 The individuals reporting to the Control Room should establish communication with the TSC upon arrival.
- 3.2.2.2 Using Attachment 4, Plant Status Board / Main Control Board Cross Reference to assist in collecting the data and Attachment 2, Plant Status Board Key, complete Attachment 1 in as close to 15 minute intervals as practical.
- NOTE: Relay of Attachment 1 information from the Control Room can be done using the fax machine.
- 3.2.2.3 Relay the information on the completed Attachment 1 to the TSC Engineering Staff to update the plant status boards.
- 3.2.3 As much as possible and appropriate, arrows should be placed next to specified values on the PSB to indicate upward {↑} or downward {↓} trends.
- 3.3 EMERGENCY RESPONSE DATA SYSTEM DEACTIVATION
- 3.3.1 The ERDS is deactivated on the Plant Computer terminal by going to the ERDS display and pressing <F3>. Pressing <F3> terminates the modem program and returns the Plant Computer terminal to the user.

## 4 FINAL CONDITIONS

- 4.1 The Emergency Coordinator or the designee has determined that technical assessment is no longer required.



5      REFERENCES

- 5.1            Callaway Plant Radiological Emergency Response Plan (RERP)
- 5.2            NRC Information Notice 91-56
- 5.3            NUREG-1394, Rev. 1 - Emergency Response Data System (ERDS) Implementation
- 5.4            **ETP-ZZ-02000 - TECHNICAL ASSESSMENT**
- 5.5            10 CFR 50, Appendix E, part V
- 5.6            **EIP-ZZ-00217 - Emergency Response Data System Activation**
- 5.7            **CSP-ZZ-07540 - Water Storage Tank Activity**
- 5.8            Severe Accident Management Guidelines

6      RECORDS

<p><u>NOTE:</u>      Position logs, screenprints, forms, memos, notes, etc. should be attached to each Coordinator's checklist and turned in to the Admin Coordinator and/or Emergency Preparedness (EP).</p>
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6.1      QA RECORDS

- 6.1.1        Plant Status Report, Attachment 1 (K171.0010)

6.2      COMMERCIAL RECORDS

None

PLANT STATUS BOARD																			
UPDATE TIME: _____					EMERGENCY PROCEDURE: _____					DESCRIPTION _____									
<b>RCS CONDITIONS</b>					<b>STEAM GENERATORS</b>					<b>ECCS STATUS</b>				<b>CONTAINMENT CONDITIONS</b>					
Rx TRIP date _____ time _____	Rx PWR _____%	RCS WR PRESS. ____psig	RVLIS DYNAMIC _____% STATIC _____%	SUB-COOLING (NEG. IF SUPER-HEAT) ____°F		A	B	C	D	ON/OFF	TRAIN 'A'	TRAIN 'B'	FLOW (GPM)	PRESS. ____psig	TEMP ____°F	HUMIDITY ____%	RAD LVL ____R/HR	H2 CONC ____%	
HIGHEST CORE EXIT T/C ____°F	PZR LVL _____%	RCS ACTIVITY ____mCi/cc	PRT TEMP ____°F PRESS ____PSIG LEVEL ____%	LVL ____% NR						CCP				CTMT SPRAY PUMP 'A'; ON/OFF CTMT SPRAY PUMP 'B'; ON/OFF					
										NCP		N/A							
PZR PORV 'A' OP/CL	'A' PORV BLOCK VLV OP/CL	PZR PORV 'B' OP/CL	'B' PORV BLOCK VLV OP/CL	LVL ____% WR						SI				CTMT RECIRC SUMP 'A'; ____ IN. CTMT RECIRC SUMP 'B'; ____ IN.					
RCS LOOP	A	B	C	D	PRESS PSIG														
Thot (wr/nr)					MAIN FEED FLOW Klbm/Hr					SI ACC 'A' _____% ____psig	SI ACC 'B' _____% ____psig	SI ACC 'C' _____% ____psig	SI ACC 'D' _____% ____psig	ESFAS ACTUATION NS	CSF STATUS	COLOR	REASON (if not green)		
Tcold (wr/nr)					AUX FEED FLOW Klbm/Hr								RWST LVL ____%	SIS	CIS-A	SUBCRIT			
LOOP FLOW (%)					STEAM FLOW Klbm/Hr					<b>ELECTRICAL SYSTEMS STATUS</b>				CIS-B	CSAS	CORE COOLING			
RCP (ON/OFF/UNAVAIL)					MSIV OP/CL					SWYD BUS A ____(KV)	SWYD BUS B ____(KV)	NK01 ____VDC		CPIS	MSLIS	HEAT SINK			
<b>CONTROL ROD POSITIONS</b>					FWIV OP/CL					D/G 'A' ON/OFF/UNAVAIL.	D/G 'B' ON/OFF/UNAVAIL.	NK02 ____VDC		FWIS	AFAS	RCS INTEGRITY			
CTRL BANK A	CTRL BANK B	CTRL BANK C	CTRL BANK D		S/G ATM PORV OP/CL					NB01 ENERGIZED YES/NO	NB02 ENERGIZED YES/NO	NK03 ____VDC		CRVIS	FBIS	CTMT			
S/D BANK A	S/D BANK B	S/D BANK C	S/D BANK D	S/D BANK E	MDAFP 'A' ON/OFF/UNAVAIL	CST LVL ____%				PA01 ENERGIZED YES/NO	PA02 ENERGIZED YES/NO	NK04 ____VDC			RCS INVENTORY				
					MDAFP 'B' ON/OFF/UNAVAIL														
					TDAFP ON/OFF/UNAVAIL														
<p align="center"><b>NOTES AND MISC ITEMS</b></p> <div style="display: flex; justify-content: space-between;"> <div> <p><b>Tank Volumes</b></p> <p>Pressurizer: 120 gal/% Cold    62 gal/% Hot</p> <p>PRT: 132.6 gal/%    64-88%</p> <p>Accumulators: 7.291 gal/%</p> </div> <div> <p>VCT: 20.4 gal/%</p> <p>RWST: 4007.23 gal/%</p> <p>CST: 4608.85 gal/%</p> </div> <div> <p>CTMT Normal Sumps: 15.6 gal/% or 10 gal/in</p> <p>CTMT Emergency Sumps: 40 gal/% &lt;96 in</p> <p>Instrument Tunnel Sump: 15 gal/%</p> </div> </div> <p align="center">Notify Chemistry and IIP Coordinator when entering recirc phase</p>																			

PLANT STATUS BOARD KEY																			
UPDATE TIME: _____					EMERGENCY PROCEDURE: _____					DESCRIPTION _____									
RCS CONDITIONS					STEAM GENERATORS					ECCS STATUS				CONTAINMENT CONDITIONS					
Rx TRIP ____(1)____ date ____(1)____ time	Rx PWR ____(2)____ %	RCS WR PRESS. ____(3)____ psig	RVLIS DYNAMIC ____(4)____ %  STATIC ____(4)____ %	SUB-COOLING (NEG. IF SUPER-HEAT) ____(5)____ °F		A	B	C	D	ON/OFF	TRAIN 'A'	TRAIN 'B'	FLOW (GPM)	PRESS. ____(51)____ psig	TEMP ____(52)____ °F	HUMIDITY ____(53)____ %	RAD LVL ____(54)____ R/HR	H2 CONC ____(55)____ %	
HIGHEST CORE EXIT T/C ____(6)____ °F	PZR LVL ____(7)____ %	RCS ACTIVITY ____(8)____ mCi/cc	PRT TEMP ____(9)____ °F  PRESS ____(9)____ PSIG  LEVEL ____(9)____ %		LVL % NR	(18)	(18)	(18)	(18)	CCP  NCP	(29)  (30)	(29)  N/A		CTMT SPRAY PUMP 'A'; ON / OFF (56) CTMT SPRAY PUMP 'B'; ON / OFF					
PZR PORV 'A' (10) OP / CL	'A' PORV BLOCK VLV (10) OP / CL	PZR PORV 'B' (11) OP / CL	'B' PORV BLOCK VLV (11) OP / CL	LVL % WR	(19)	(19)	(19)	(19)	SI	(31)	(31)								
RCS LOOP	A	B	C	D	PRESS PSIG	(20)	(20)	(20)	(20)	RHR	(32)	(32)							
Thot (wr/nr)	(12)	(12)	(12)	(12)	MAIN FEED FLOW Klbm/Hr	(21)	(21)	(21)	(21)	SI ACC 'A' ____(33)____ % ____(33)____ psig	SI ACC 'B' ____(34)____ % ____(34)____ psig	SI ACC 'C' ____(35)____ % ____(35)____ psig	SI ACC 'D' ____(36)____ % ____(36)____ psig	ESFAS ACTUATIO NS	CSF STATUS	COLOR	REASON (if not green)		
Tcold (wr/nr)	(13)	(13)	(13)	(13)	AUX FEED FLOW Klbm/Hr	(22)	(22)	(22)	(22)	RWST LVL ____(38)____ %								SIS (59)	CIS-A (60)
LOOP FLOW (%)	(14)	(14)	(14)	(14)	STEAM FLOW Klbm/Hr	(23)	(23)	(23)	(23)	ELECTRICAL SYSTEMS STATUS				CIS-B (61)	CSAS (62)	CORE COOLING	(69)	(69)	
RCP (ON/OFF/UNAVAIL)	(15)	(15)	(15)	(15)	MSIV OP/CL	(24)	(24)	(24)	(24)	SWYD BUS A ____(39)____ (KV)	SWYD BUS B ____(40)____ (KV)	NK01 ____(47)____ VDC	CPIS (63)	MSLIS (64)	HEAT SINK	(69)	(69)		
CONTROL ROD POSITIONS					FWIV OP/CL	(25)	(25)	(25)	(25)	D/G 'A'(41) ON/OFF/ UNAVAIL.	D/G 'B'(42) ON/OFF/ UNAVAIL.	NK02 ____(48)____ VDC	FWIS (65)	AFAS (66)	RCS INTEGRITY	(69)	(69)		
CTRL BANK A ____(16)____ S/D BANK A ____(17)____	CTRL BANK B ____(16)____ S/D BANK B ____(17)____	CTRL BANK C ____(16)____ S/D BANK C ____(17)____	CTRL BANK D ____(16)____ S/D BANK D ____(17)____		S/G ATM PORV OP/CL	(26)	(26)	(26)	(26)	NB01 ENERGIZED (43) YES/NO	NB02 ENERGIZED (44) YES/NO	NK03 ____(49)____ VDC	CRVIS (67)	FBIS (68)	CTMT	(69)	(69)		
					MDAFP 'A' ON / OFF / UNAVAIL (27) MDAFP 'B' ON / OFF / UNAVAIL (27) TDAFP ON / OFF / UNAVAIL		CST LVL ____(28)____ %			PA01 ENERGIZED (45) YES/NO	PA02 ENERGIZED (46) YES/NO	NK04 ____(50)____ VDC			RCS INVEN- TORY	(69)	(69)		
NOTES AND MISC ITEMS																			
<div style="display: flex; justify-content: space-between;"> <div> <p><b>Tank Volumes</b></p> <p>Pressurizer: 120 gal/% Cold    62 gal/% Hot</p> <p>PRT: 132.6 gal/%    64-88%</p> <p>Accumulators: 7.291 gal/%</p> </div> <div> <p>VCT: 20.4 gal/%</p> <p>RWST: 4007.23 gal/%</p> <p>CST: 4608.85 gal/%</p> </div> <div> <p>CTMT Normal Sumps: 15.6 gal/% or 10 gal/in</p> <p>CTMT Emergency Sumps: 40 gal/% &lt;96 in</p> <p>Instrument Tunnel Sump: 15 gal/%</p> </div> </div> <p style="text-align: center; margin-top: 10px;">Notify Chemistry and IIP Coordinator when entering recirc phase</p>																			

## PLANT STATUS BOARD / PLANT COMPUTER CROSS REFERENCE

This Attachment is designed to match up information on the Plant Status Board with the appropriate computer points on the Plant Computer. The key number is the matching number from Attachment 2. If there is no associated computer point for an item number, additional information is provided as to where this information can be obtained. When there is more than one computer point that provides the information for an item number the preferred computer point is provided first separated from the secondary computer points by semi colons.

<b><u>KEY</u></b>	<b><u>PLANT COMPUTER POINT</u></b>
1	<b>Reactor Trip Date</b> = SPDS4033-35, <b>Reactor Trip time</b> SPDS4036-38; ALARM Review
2	<b>Rx PWR</b> ; Post Accident Wide Range = SEN0701; SEN0060B, 61B Power Range SPDS00059; REU1169; REN0049A-52A
3	<b>RCS WR PRESSURE</b> ; SPDS0001; REP0498A , 499A
4	<b>RVLIS DYNAMIC</b> = REU0523; REL0503A , 523A <b>RVLIS STATIC</b> = SPDS0042; REL0501A, 521A
5	<b>SUBCOOLING</b> ; SPDS0006; REU1734-37
6	<b>HIGHEST CORE EXIT T/C</b> ; REU0090; <b>LOCATION</b> = REU0092; RET0001A - RET0050A
7	<b>PZR LVL</b> ; REU0483; REL0480A - 482A
8	<b>RCS ACTIVITY</b> ; SJR0001 OR CHEMISTRY COORDINATOR
9	<b>PRT TEMP</b> = RET0485A   <b>PRT PRESS</b> = REP0485A   <b>PRT LEV</b> = REL0485A
10	<b>PZR PORV A</b> = BBZ455AA   <b>BLOCK VALVE A</b> = BBZ8000A
11	<b>PZR PORV B</b> = BBZ455AB   <b>BLOCK VALVE B</b> = BBZ8000B
12	<b>RCS LOOPS Thot</b> ; A = WIDE RET0419A; NARROW REU411A B = WIDE RET0439A; NARROW REU421A C = WIDE RET0459A; NARROW REU431A D = WIDE RET0479A; NARROW REU441A
13	<b>RCS LOOPS Tcold</b> ; A = <b>NARROW</b> RET0402A; <b>WIDE</b> RET0406A B = <b>NARROW</b> RET0422A; <b>WIDE</b> RET0426A C = <b>NARROW</b> RET0442A; <b>WIDE</b> RET0446A D = <b>NARROW</b> RET0462A; <b>WIDE</b> RET0466A
14	<b>RCS LOOP FLOWS</b> ; A = REU0400 ; REF0400A - 402A B = REU0420 ; REF0420A - 422A C = REU0440 ; REF0440A - 442A D = REU0460 ; REF0460A - 462A

<b>KEY</b>	<b>PLANT COMPUTER POINT</b>
15	<b>RCP STATUS;</b> A = BBQ0001 B = BBQ0002 C = BBQ0003 D = BBQ0004
16	<b>CONTROL BANK POSITIONS ;</b> A = REU0001 ; REU0049 ; REC0041 , 42 ,45 ,46 B = REU0002 ; REU0050 ; REC0050 - 57 C = REU0003 ; REU0051 ; REC0059-66 D = REU0004 ; REU0052 ; REC0068 , 69, 72 ,73, 74
17	<b>S/D POSITIONS ;</b> A = REU0010 ; REU0053 ; REC0009 - 12 , REC0014 - 17 B = REU0011 ; REU0054 ; REC0019 - 22 , REC0024 - 27 C = REU0012 ; REU0055 ; REC0029 - 32 D = REU0013 ; REU0056 ; REC0033 - 36 E = REU0014 ; REU0060 ; REC0037 - 40
18	<b>S/G NARROW RANGE LEVELS ;</b> A = REU0415 ; REL0400A - 403A B = REU0435 ; REL0420A - 423A C = REU0455 ; REL0440A - 443A D = REU0475 ; REL0460A - 463A
19	<b>S/G WIDE RANGE LEVELS ;</b> A = REL0404A B = REL0424A C = REL0444A D = REL0464A
20	<b>S/G PRESSURES;</b> A = REU0414 ; REP0400A - 402A B = REU0434 ; REP0420A - 422A C = REU0454 ; REP0440A - 442A D = REU0474 ; REP0460A - 462A
21	<b>MAIN FEED FLOW ;</b> A = REU0410A ; REF0403A , 4A B = REU0430A ; REF0423A , 24A C = REU0450A ; REF0443A , 44A D = REU0470A ; REF0463A , 64A
22	<b>AUX FEED FLOW ;</b> A = ALF0702 B = ALF0703 C = ALF0704 D = ALF0701
23	<b>STEAM FLOW ;</b> A = REU0412A ; REF0405A , 6A B = REU0432A ; REF0425A , 26A C = REU0452A ; REF0445A , 46A D = REU0472A ; REF0465A , 66A
24	<b>MSIV POSITION ;</b> A = ABZ0014 B = ABZ0017 C = ABZ0020 D = ABZ0011

<b>KEY</b>	<b>PLANT COMPUTER POINT</b>
25	<b>FWIV POSITION ;</b> A = AEZ0039 B = AEZ0040 C = AEZ0041 D = AEZ0042
26	<b>S/G ATM PORV ;</b> A = ABZ0001 B = ABZ0002 C = ABZ0003 D = ABZ0004
27	<b>AFP STATUS ;</b> MDAFP A = ALQ0023 MDAFP B = ALQ0022 TDAFP = ALQ0600
28	<b>CST LEVEL;</b> APL0004
29	<b>CCP STATUS AND FLOW ;</b> CCP A = BGQ0001 CCP B = BGQ0002 BIH FLOW = REU0503 ; REF0927A + REF0928A
30	<b>NCP STATUS AND FLOW;</b> NCP = BGQ0003 NPC FLOW = REF0128A
31	<b>SI PUMP STATUS AND FLOW;</b> SIP A = EMQ0004 SIP B = EMQ0005 COLD LEG FLOW = REU0502 ; REF0921A + REF0922A
32	<b>RHR PUMP STATUS: RHR PUMP A = EJQ0001 AND FLOW</b> RHR PUMP B = EJQ0002 COLD LEG FLOW = REU0501 ; REF0626A + REF0627A HOT LEG RECIRC FLOW = REF0948A
33	<b>SI ACC A LEVEL ;</b> REU0512 ; REL0940A , 941A <b>SI ACC A PRESS ;</b> REP0940A , 941 A
34	<b>SI ACC B LEVEL ;</b> REU0513 ; REL0942A , 943A <b>SI ACC B PRESS ;</b> REP0942A , 943 A
35	<b>SI ACC C LEVEL ;</b> REU0514 ; REL0944A , 945A <b>SI ACC C PRESS ;</b> REP0944A , 945 A
36	<b>SI ACC D LEVEL ;</b> REU0515 ; REL0946A , 947A <b>SI ACC D PRESS ;</b> REP0946A , 947 A
37	<b>INJECTION/RECIRC ALIGNMENT; CONTROL ROOM (OR SYSTEM VALVE LINEUP COMPUTER POINTS/ SYSTEM DISPLAYS)</b>
38	<b>RWST LEVEL ;</b> REU0511 ; REL0930A - 933A
39	<b>SWYD BUS A VOLTAGE ;</b> MSE0345A
40	<b>SWYD BUS B VOLTAGE ;</b> MSE0345B
41	<b>D/G A STATUS ;</b> NEE0601
42	<b>D/G B STATUS ;</b> NEE0602
43	<b>NB01 STATUS ;</b> NBQ0701; NEQ0017 , NBQ0013 , NBQ0015
44	<b>NB02 STATUS ;</b> NBQ0702; NEQ0018 , NBQ0017 , NBQ0019
45	<b>PA01 STATUS : PAE0003</b>

<b>KEY</b>	<b>PLANT COMPUTER POINT</b>
46	PA02 STATUS ; PAE0004
47	NK01 VOLTAGE: NKE0001
48	NK02 VOLTAGE: NKE0002
49	NK03 VOLTAGE: NKE0003
50	NK04 VOLTAGE: NKE0004
51	CONTAINMENT PRESSURE ; REU1000 ; REP1000A - 1002A , REP1038A , 39A
52	CONTAINMENT TEMP ; SPDS0007 ; GNT0060 - 0063
53	CONTAINMENT HUMIDITY ; SPDS0010 ; GNA0027 , 28
54	CONTAINMENT RADIATION ; SPDS0011 ; GTR0059 , 60
55	CONTAINMENT H <sub>2</sub> CONC. ; SPDS0053 ; GSA0019 , 10
56	CONTAINMENT SPRAY PUMP STATUS ; CSP 'A' ; ENQ0003 CSP 'B' ; ENQ0009
57	CONTAINMENT RECIRC SUMP A LEVEL ; EJJ0007 CONTAINMENT RECIRC SUMP B LEVEL ; EJJ0008
58	H <sub>2</sub> RECOMBINER STATUS; OBTAIN FROM CONTROL ROOM IF THERE IS INDICATION OF H <sub>2</sub> IN CONTAINMENT.
59	SIS ACTUATION ; SAQ0605; SAQ0010A, 10B
60	CIS - A ACTUATION ; SAQ0601, SAQ0005A, 5B
61	CIS - B ACTUATION ; SBQ0012
62	CSAS ACTUATION ; SBQ0013
63	CPIS ACTUATION ; SAQ0603, SAQ0007A, 7B
64	MSLIS ACTUATION; ABZ0602
65	FWIS ACTUATION ; AEZ0600
66	AFAS ACTUATION ;SAQ0606; SAQ011A/B/C
67	CRVIS ACTUATION ; SAQ0602, SAQ0006A, 6B
68	FBIS ACTUATION ; SAQ0604, SAQ0014A, 14B
69	CSF STATUS ; SUBCRIT ; (SPDS) CORE COOLING ; HEAT SINK ; RCS INTEGRITY; CONTAINMENT; RCS INVENTORY;

**PLANT STATUS BOARD / MAIN CONTROL BOARD  
CROSS REFERENCE**

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This reference is set up to match information on the Plant Status Board with the location and identification number of where that information is found, i.e. the Control Room instrument(s) etc.

**Key #** = Corresponds to the numbers on Attachment 2, Plant Status Board Key.

**PANEL** = Designates the panel of the main control board or elsewhere on which the desired instrument or indication is located.

**LOC** = General location on the panel where the instrument is located:

1st Letter	2nd Letter
U = Upper	R = Right
L = Lower	L = Left
	C = Center

**Instrument** = Identification number of desired instrument. This number is normally on a label under, over, or on the instrument.

When two or more instruments measure the same parameter, all instruments are listed, one under another, with the same margin. Any, or ideally a rough average of all, of these readings can be used.

In the case where it is preferable to obtain a reading from one instrument rather than another, the less favorable one will be indented. Even less favorable ones will be further indented.

INSTRUMENT EXAMPLE	
XX-XX-XXX	Three desirable instruments. Rough average the valid readings.
XX-XX-XXX	
XX-XX-XXX	
XX-XX-XXX	Less desirable instrument reading for use if desirable not valid.
XX-XX-XXX	Least desirable instrument



ATTACHMENT 4

<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
12	RCS LOOP Thot A	RL022 - LC RL021 - UR	BB TR-413 BB TI-413A	LOOP 1 H/C LEGS WR TEMP LOOP 1 HOT LEG WR TEMP
	B	RL022 - LC RL021 - UR	BB TR-423 BB TI-423A	LOOP 2 H/C LEGS WR TEMP LOOP 2 HOT LEG WR TEMP
	C	RL022 - LC	BB TR-433	LOOP 3 H/C LEGS WR TEMP
	D	RL022 - LC	BB TR-443	LOOP 4 H/C LEGS WR TEMP
13	RCS LOOP Tcold A	RL022 - LL RL021 - UR	BB TR-413 BB TI-413B	LOOP 1 H/C LEGS WR TEMP LOOP 1 COLD LEG WR TEMP
	B	RL022 - LL RL021 - UR	BB TR-423 BB TI-423B	LOOP 2 H/C LEGS WR TEMP LOOP 2 COLD LEG WR TEMP
	C	RL022 - LC	BB TR-433	LOOP 3 H/C LEGS WR TEMP
	D	RL022 - LC	BB TR-443	LOOP 4 H/C LEGS WR TEMP
14	RCS LOOP FLOW A	RL022 - LL RL022 - LL RL022 - LL	BB FI-414 BB FI-415 BB FI-416	LOOP 1 REACTOR COOLANT FLOW
	B	RL022 - LL RL022 - LL RL022 - LL	BB FI-424 BB FI-425 BB FI-426	LOOP 2 REACTOR COOLANT FLOW
	C	RL022 - LL RL022 - LL RL022 - LL	BB FI-434 BB FI-435 BB FI-436	LOOP 3 REACTOR COOLANT FLOW
	D	RL022 - LC RL022 - LC RL022 - LC	BB FI-444 BB FI-445 BB FI-446	LOOP 4 REACTOR COOLANT FLOW
15	RCP A	RL021 - UL	BB HIS-37	RCP A
	B	RL021 - UL	BB HIS-38	RCP B
	C	RL021 - UL	BB HIS-39	RCP C
	D	RL021 - UL	BB HIS-40	RCP D
16	CTRL BANK POSITION A	RL022 - UR RL003 - UC RL003 - UC	SF074 SC CB-A1 SC CB-A2	PNL CONT RPI DISPLAY CTRL BANK A1 STEP COUNTER CTRL BANK A2 STEP COUNTER

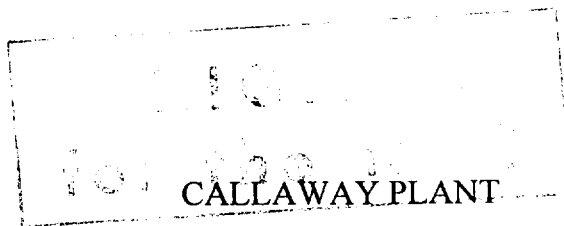
<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
16	B	RL022 - UR RL003 - UC RL003 - UC	SF074 SC CB-B1 SC CB-B2	PNL CONT RPI DISPLAY CTRL BANK B1 STEP COUNTER CTRL BANK B2 STEP COUNTER
	C	RL022 - UR RL003 - UC RL003 - UC	SF074 SC CB-C1 SC CB-C2	PNL CONT RPI DISPLAY CTRL BANK C1 STEP COUNTER CTRL BANK C2 STEP COUNTER
	D	RL022 - UR RL003 - UC RL003 - UC	SF074 SC CB-D1 SC CB-D2	PNL CONT RPI DISPLAY CTRL BANK D1 STEP COUNTER CTRL BANK D2 STEP COUNTER
17	S/D BANK POSITION			
	A	RL022 - UR RL003 - LC RL003 - LC	SF074 SC SB-A1 SC SB-A2	PNL CONT RPI DISPLAY S/D BANK A1 STEP COUNTER S/D BANK A2 STEP COUNTER
	B	RL022 - UR RL003 - LC RL003 - LC	SF074 SC SB-B1 SC SB-B2	PNL CONT RPI DISPLAY S/D BANK B1 STEP COUNTER S/D BANK B2 STEP COUNTER
	C	RL022 - UR RL003 - LC	SF074 SC SB-C1	PNL CONT RPI DISPLAY S/D BANK C1 STEP COUNTER
	D	RL022 - UR RL003 - LC	SF074 SC SB-D1	PNL CONT RPI DISPLAY S/D BANK D1 STEP COUNTER
	E	RL022 - UR RL003 - LC	SF074 SC SB-D1	PNL CONT RPI DISPLAY S/D BANK E STEP COUNTER
18	S/G NR LEVEL			
	A	RL026 - LL RL026 - LL RL026 - LL RL025 - UL RL006 - UL	AE LI-517 AE LI-518 AE LI-519 AE LI-551 AE FR-510	SG A LEV SG A LEV SG A LEV STEAM GENERATOR A LEV SG A STEAM/FW FLOW/LEV
	B	RL026 - LL RL026 - LL RL026 - LC RL025 - UL RL006 - UL	AE LI-527 AE LI-528 AE LI-529 AE LI-552 AE FR-520	SG B LEV SG B LEV SG B LEV STEAM GENERATOR B LEV SG B STEAM/FW FLOW/LEV
	C	RL026 - LC RL026 - LC RL026 - LC RL025 - UC RL006 - UC	AE LI-537 AE LI-538 AE LI-539 AE LI-553 AE FR-530	SG C LEV SG C LEV SG C LEV STEAM GENERATOR C LEV SG C STEAM/FW FLOW/LEV
	D	RL026 - LC RL026 - LC RL026 - LC RL025 - UC RL006 - UC	AE LI-547 AE LI-548 AE LI-549 AE LI-554 AE FR-540	SG D LEV SG D LEV SG D LEV STEAM GENERATOR D LEV SG D STEAM/FW FLOW/LEV

<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
19	S/G WR LEVEL A	RL025 - UL RL026 - UL	AE LI-501 AE LR-501	SG A WR LEV SG A & B WR LEV
	B	RL025 - UL RL026 - UL	AE LI-502 AE LR-501	SG B WR LEV SG A & B WR LEV
	C	RL025 - UC RL026 - UL	AE LI-503 AE LR-503	SG C WR LEV SG A & B WR LEV
	D	RL025 - UC RL026 - UL	AE LI0504 AE LR-503	SG D WR LEV SG A & B WR LEV
20	S/G PRESS A	RL026 - LL RL026 - LL RL026 - LL RL026 - UC	AB PI-514A AB PI-515A AB PI-516A AB PR-514	SG A PRESS SG A PRESS SG A PRESS SG A & B PRESS
	B	RL026 - LL RL026 - LL RL026 - LL RL026 - UC	AB PI-524A AB PI-525A AB PI-526A AB PR-514	SG B PRESS SG B PRESS SG B PRESS SG A & B PRESS
	C	RL026 - LL RL026 - LL RL026 - LL RL026 - UC	AB PI-534A AB PI-535A AB PI-536A AB PR-535	SG C PRESS SG C PRESS SG C PRESS SG C & D PRESS
	D	RL026 - LL RL026 - LL RL026 - LL RL026 - UC	AB PI-544A AB PI-545A AB PI-546A AB PR-535	SG D PRESS SG D PRESS SG D PRESS SG C & D PRESS
21	MAIN FEED FLOW A	RL026 - UL RL026 - UL RL006 - UL	AE FI-510A AE FI-511A AE FR-510	STEAM GENERATOR A FW FLOW STEAM GENERATOR A FW FLOW SG A STEAM/FW FLOW/LEV
	B	RL026 - UL RL026 - UL RL006 - UL	AE FI-520A AE FI-521A AE FR-520	STEAM GENERATOR B FW FLOW STEAM GENERATOR B FW FLOW SG B STEAM/FW FLOW/LEV
	C	RL026 - UC RL026 - UC RL006 - UC	AE FI-530A AE FI-531A AE FR-530	STEAM GENERATOR C FW FLOW STEAM GENERATOR C FW FLOW SG C STEAM/FW FLOW/LEV
	D	RL026 - UC RL026 - UC RL006 - UC	AE FI-540A AE FI-541A AE FR-540	STEAM GENERATOR D FW FLOW STEAM GENERATOR D FW FLOW SG D STEAM/FW FLOW/LEV
22	AUX FEED FLOW A	RL006 - UL	AL FI-2A	AFW TO SG A FLOW
	B	RL006 - UL	AL FI-3A	AFW TO SG B FLOW
	C	RL006 - UC	AL FI-4A	AFW TO SG C FLOW
	D	RL006 - UC	AL FI-1A	AFW TO SG D FLOW

<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
23	STEAM FLOW A B C D	RL026 - UL RL026 - UL RL006 - UL  RL026 - UL RL026 - UL RL006 - UL  RL026 - UC RL026 - UC RL006 - UC  RL026 - UC RL026 - UC RL006 - UC	AB FI-512A AB FI-513A AE FR-510  AB FI-522A AB FI-523A AE FR-520  AB FI-532A AB FI-533A AE FR-530  AB FI-542A AB FI-543A AE FR-540	STEAM GENERATOR A STEAM FLOW STEAM GENERATOR A STEAM FLOW SG A STEAM/FW FLOW/LEV  STEAM GENERATOR B STEAM FLOW STEAM GENERATOR B STEAM FLOW SG B STEAM/FW FLOW/LEV  STEAM GENERATOR C STEAM FLOW STEAM GENERATOR C STEAM FLOW SG C STEAM/FW FLOW/LEV  STEAM GENERATOR D STEAM FLOW STEAM GENERATOR D STEAM FLOW SG D STEAM/FW FLOW/LEV
24	MSIV POSITION A B C D	RL025 - LL RL025 - LL RL025 - LC RL025 - LC	AB HIS-14 AB HIS-17 AB HIS-20 AB HIS-11	SG A MS ISO VLV SG B MS ISO VLV SG C MS ISO VLV SG D MS ISO VLV
25	FWIV POSITION A B C D	RL025 RL025 RL025 RL025	AE HIS-39 AE HIS-40 AE HIS-41 AE HIS-42	SG A FW ISO VLV SG B FW ISO VLV SG C FW ISO VLV SG D FW ISO VLV
26	S/G PORV POSITION A B C D	RL006 - LL RL006 - LL RL006 - LC RL006 - LC	AB ZL-1A AB ZL-2A AB ZL-3A AB ZL-4A	SG A STEAM DUMP TO ATM SG B STEAM DUMP TO ATM SG C STEAM DUMP TO ATM SG D STEAM DUMP TO ATM
27	AFP MDAFP A MDAFP B TDAFP	RL005 RL005 RL005	AL HIS-23A AL HIS-22A AL PI-21A > AL PI-26A	MD AFP A MD AFP B TD AFP DISCH PRESS > TD AFP SUCT PRESS
28	CST LEVEL	RL005 - UC	AP LI-4A	CST LEV
29	CCP A B	RL001 - LR RL018 - ML RL001 - LR RL018 - MR	BG HIS-1A EM-FI-917A BG HIS-2A EM-FI-917B	CCP A Run/Stop CCP A Flow CCP B Run/Stop CCP B Flow
30	NCP	RL001 RL002	BG HIS-3 BG-FI-121A	Normal Charging Pump NCP Flow
31	SI Pump A B	RL017 - UR RL017 - UR RL017 - UL RL017 - UL	EM HIS-4 EM-FI-918 EM HIS-5 EM-FI-922	SI Pump A SI Pump A Flow SI Pump B SI Pump B Flow
32	RHR Pump A B	RL017 - LR RL017 RL017 - LL RL017	EJ HIS-1 EJ-FI-618 EJ HIS-2 EJ-FI-619	RHR Pump A RHR Pump A Flow RHR Pump B RHR Pump B Flow

<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
33	SI ACC 'A' LEVEL/PRESS	RL018 - UR RL018 - UR RL018 - UR RL018 - UR	EP LI-950 EP LI-951 EP PI-960 EP PI-961	ACCUMULATOR TANK A LEVEL ACCUMULATOR TANK A LEVEL ACCUMULATOR TANK A PRESSURE ACCUMULATOR TANK A PRESSURE
34	SI ACC 'B' LEVEL/PRESS	RL018 - UL RL018 - UL RL018 - UL RL018 - UL	EP LI-952 EP LI-953 EP PI-962 EP PI-963	ACCUMULATOR TANK B LEVEL ACCUMULATOR TANK B LEVEL ACCUMULATOR TANK B PRESSURE ACCUMULATOR TANK B PRESSURE
35	SI ACC 'C' LEVEL/PRESS	RL018 - UR RL018 - UR RL018 - UR RL018 - UR	EP LI-954 EP LI-955 EP PI-964 EP PI-965	ACCUMULATOR TANK C LEVEL ACCUMULATOR TANK C LEVEL ACCUMULATOR TANK C PRESSURE ACCUMULATOR TANK C PRESSURE
36	SI ACC 'D' LEVEL/PRESS	RL018 - UL RL018 - UL RL018 - UL RL018 - UL	EP LI-956 EP LI-957 EP PI-966 EP PI-967	ACCUMULATOR TANK D LEVEL ACCUMULATOR TANK D LEVEL ACCUMULATOR TANK D PRESSURE ACCUMULATOR TANK D PRESSURE
37	ECCS INJECTION OR RECIRC MODE (in the recirc mode if not in the injection mode and ECCS is activated)			<i>ECCS IS IN THE INJECTION MODE IF ANY OF THE FOLLOWING ARE OPEN AND THE PUMP IS RUNNING:</i>  RL001 - UC ; BN HIS-112D (CCP A) RL001 - UC ; BN HIS- 112E (CCP B) RL017 - UR ; BN HIS-8806A (SIP A) RL017 - UL ; BN HIS-8806B (SIP B) RL017 - LR ; BN HIS-8812A (RHR PUMP A) RL017 - LL : BN HIS-8812B (RHR PUMP B)
38	RWST LEVEL	RL018 - UR RL018 - UR RL018 - UL RL018 - UL	BN LI-930 BN LI-932 BN LI-931 BN LI-933	RWST LEV RWST LEV RWST LEV RWST LEV
39	SWYD BUS A VOLTAGE	RL014 - LC		VOLT BUS A
40	SWYD BUS B VOLTAGE	RL014 - LC		VOLT BUS B
41	D/G A	RL015 - UC	NE ZL-28/ NE ZL-29	DG NE01 AT VOLT/ AT FREQ
42	D/G B	RL015 - UC	NE ZL-30/ NE ZL-31	DG NE02 AT VOLT/ AT FREQ
43	NB01	RL015 - LL RL015 - UL	NB EI-1 NB ZL-5	4.16 KV BUS NB01 VOLT 4.16 KV BUS NB01
44	NB02	RL015 - LR RL015 - UR	NB EI-2 NB ZL-6	4.16 KV BUS NB02 VOLT 4.16 KV BUS NB02
45	PA01	RL016 - UL RL016 - UL	PA EI-1 PA ZL-1	13.8 KV BUS PA01 VOLT 13.8 KV BUS PA01
46	PA02	RL016 - UR RL016 - UR	PA EI-2 PA ZL-2	13.8 KV BUS PA02 VOLT 13.8 KV BUS PA02
47	NK01	RL016 - UL	NK EI-1	125 V DC BUS NK01 VOLT
48	NK02	RL016 - UL	NK EI-2	125 V DC BUS NK02 VOLT
49	NK03	RL016 - UR	NK EI-3	125 V DC BUS NK03 VOLT
50	NK04	RL016 - UR	NK EI-4	125 V DC BUS NK04 VOLT

<u>KEY</u>	<u>PSB ITEM</u>	<u>PANEL</u>	<u>INSTRUMENT ID</u>	<u>CONTROL BOARD LABEL/INFORMATION</u>
51	CTMT PRESS	RL018 - UL RL018 - UL RL018 - UC RL018 - UC RL018 - UL RL020 - UL RL020 - UL RL020 - UL	GN PI-934 GN PI-936 GN PI-935 GN PI-937 GN PR-934 GN PI-938 GN PI-939 GN PR-938	CTMT ATMS PRESS CTMT ATMS PRESS CTMT ATMS PRESS CTMT ATMS PRESS CTMT ATMS PRESS CTMT ATMS PRESS CTMT ATMS PRESS CTMT PRESS RECORDER
52	CTMT TEMP	RL020 - UL	GN TR-63	CTMT TEMP RECORDER
53	CTMT HUMIDITY	RL020 - UL RL020 - UL	GN AI-27 GN AI-28	CTMT HUMIDITY CTMT HUMIDITY
54	CTMT RAD	RL020 - UL	GT RR-60	CTMT RAD RECORDER
55	CTMT H <sub>2</sub> CONC	RL020 - UL RL020 - UL RL020 - UL	GS AI-10 GS AI-19 GS AR-10	CTMT H2 CONCENTRATION CTMT H2 CONCENTRATION CTMT H2 CONCENTRATION
56	CTMT SPRAY PUMP	RL017 RL017	EN HIS-3 EN HIS-9	CTMT SPRAY PUMP A CTMT SPRAY PUMP B
57	CTMT RECIRC SUMP	RL018 - UL RL018 - UR RL020 - UL	EJ LI- 8 EJ LI- 7 EJ LR- 6	CTMT RECIRC SUMP LEV CTMT RECIRC SUMP LEV CTMT RECIRC SUMP LEV RECORDER
58	H <sub>2</sub> RECOMB.	RL020 - LR RL020 - LC	GS HS-1A GS HS-29A	H2 RECOMBINER A H2 RECOMBINER B
59	SIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
60	CIS-A	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
61	CIS-B	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
62	CSAS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
63	CPIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
64	MSLIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
65	FWIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
66	AFAS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
67	CRVIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
68	FBIS	RL018	SA 066-Y SA 066-X	ESF SYS STATUS INDICATION ESF SYS STATUS INDICATION
69	CSF STATUS		CSF STATUS TREES CSF PROCEDURES	



EIP-ZZ-00220  
Revision 013  
November 13, 2000

## EMERGENCY PLAN IMPLEMENTING PROCEDURE

EIP-ZZ-00220

### EMERGENCY TEAM FORMATION

RESPONSIBLE DEPARTMENT EMERGENCY PREPAREDNESS

PROCEDURE OWNER K. J. BRUCKERHOFF

WRITTEN BY K. J. BRUCKHEROFF

PREPARED BY K. J. BRUCKERHOFF

APPROVED BY Walter A. Witt

DATE ISSUED 12-27-00

This procedure contains the following:

Pages	<u>1</u>	through	<u>7</u>
Attachments	<u>1</u>	through	<u>1</u>
Tables	<u>          </u>	through	<u>          </u>
Figures	<u>          </u>	through	<u>          </u>
Appendices	<u>          </u>	through	<u>          </u>
Checkoff Lists	<u>          </u>	through	<u>          </u>

This procedure has            checkoff list(s) maintained in the mainframe computer.

Conversion of commitments to TRS reference/hidden text completed by Revision Number:

Non-T/S Commitments 011



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4 PROCEDURE	3
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4.2 BRIEFING AND DISPATCH OF EMERGENCY TEAMS	5
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## EMERGENCY TEAM FORMATION

### 1 PURPOSE AND SCOPE

#### 1.1 PURPOSE

- 1.1.1 To provide guidance to individuals responsible for forming, briefing, dispatching and debriefing Emergency Teams.

#### 1.2 SCOPE

- 1.2.1 Upon declaration of an emergency, establishes responsibilities for coordinating the activities of the Fire Brigade, Medical Emergency Response Team (MERT), Search & Rescue Teams, and Emergency Repair Team. **(SOS 00-1029)**
- 1.2.2 Provides a checklist for briefing and debriefing emergency teams.
- 1.2.3 On shift activities are not included in the scope of this procedure. **(SOS 00-1029)**

<p><u>NOTE:</u> On shift activities are performed in accordance with Attachment 2 of <b>EIP-ZZ-00102</b>, Emergency Implementing Actions.</p>
---

## 2 RESPONSIBILITIES

### 2.1 EMERGENCY COORDINATOR / SHIFT SUPERVISOR (EC)

2.1.1 Requests the formation of emergency teams. This responsibility may be delegated to the Operations Support Coordinator.

2.1.2 Initially, the Shift Supervisor assumes the responsibilities of the EC. At the ALERT (or higher) emergency classification levels, the EDO relieves the Shift Supervisor and assumes the EC duties. **(COMN 3324) (COMN 3325)** \_

2.1.2.1 MERT and the Fire Brigade continue to report to the Shift Supervisor. Responsibility for these two Emergency Teams cannot be delegated to the Emergency Coordinator. **(COMN 3413) (COMN 41801)**

### 2.2 OPERATIONS SUPPORT COORDINATOR (OSC)

2.2.1 Assesses plant information from the control room and technical support staff to establish emergency team priorities and direct operation support activities. **(COMN 3324) (COMN 3325)**

2.2.1.1 The OSC reports to the Emergency Coordinator (EC) in the Technical Support Center (TSC).

### 2.3 EMERGENCY TEAM COORDINATOR (ETC)

2.3.1 Assists the Operations Support Coordinator (OSC) in formation, briefing, direction, tracking and debriefing of Emergency Teams.

2.3.1.1 The ETC reports to the Operations Support Coordinator (OSC) in the TSC.

### 2.4 HEALTH PHYSICS COORDINATOR (HPC)

2.4.1 Ensures that emergency teams are briefed and debriefed on radiological conditions.

2.4.2 Ensures Health Physics support is available for emergency teams, as necessitated by radiological conditions.

<b><u>NOTE:</u></b>	On-Shift Health Physics personnel may perform these duties prior to the time the TSC is operational.
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### 3 INITIATING CONDITIONS

- 3.1 The procedure is implemented upon direction of the Emergency Coordinator per **EIP-ZZ-00102**, Emergency Implementing Actions.

### 4 PROCEDURE

The Emergency Team Coordinator (ETC) or designee, at the direction of the Operational Support Coordinator (OSC) ensures completion of the following actions:

#### 4.1 FORMATION OF EMERGENCY TEAMS

- 4.1.1 Assemble an Emergency Team consisting of the following personnel:

**CAUTION:** Fire Brigade Members perform Emergency Team duties when hazards require use of personal protective equipment (PPE), such as bunker gear, proximity suit, level "A" chemical suit, and/or SCBA, for which they are specifically trained and qualified. (**SOS 00-0160**)

The Fire Brigade continues to report to the Shift Supervisor if the activity is a fire or Hazmat response. Response to a fire or Hazmat incident cannot be delegated to the ETC.

- | 4.1.1.1 A Repair Team consists of at least two (2) plant personnel as appropriate for the specific repairs. (**COMN 3325**)

**NOTE:** Fire Brigade Members are trained in damage control repairs, such as plugging, patching, containment, etc., and manipulating valves, breakers, and other Plant Equipment.

- 4.1.1.2 A Search and Rescue Team consists of at least two personnel, one of which SHALL be qualified in first aid procedures. **(COMN 3324)**
- 4.1.1.2.1 During an event, the Security force, MERT and/or the Fire Brigade may be conducting search and rescue operations. The Fire Brigade and MERT report to the Shift Supervisor. The Security force reports to the Security Coordinator. The ETC should coordinate with the Control room and Security Coordinator to eliminate duplicate searches or other logistical problems. **(SOS 00-2079)**  
**(SOS 00-2143)**
- 4.1.1.2.2 The ETC should remain cognizant of search areas, both those completed and those still needing to be searched.
- 4.1.1.2.3 Unless directed otherwise by the Shift Supervisor or Fire Brigade Leader, when a Fire Brigade Leader is involved in a search and rescue or medical emergency, the Incident Command System should be implemented. With this, all coordination efforts for Search and Rescue Teams, MERT, nurses, ambulances, etc. are directed by the Fire Brigade Leader.
- 4.1.1.2.4 The ETC should contact the Security Coordinator to identify last known locations of the missing person(s). The Security Coordinator should also brief the ETC on known plant hazards.
- 4.1.2 Health Physics support for the Emergency Teams is coordinated by the HPC if any of the following conditions warrant: **(COMN 3324)**  
**(COMN 3325)**
- ◆ Radiological release has occurred.
  - ◆ Radiological release is likely to occur.
  - ◆ Entry to a Radiological Controlled Area (RCA)
  - ◆ Entry to a Radiological Posted Area (RPA)

- 4.2        **BRIEFING AND DISPATCH OF EMERGENCY TEAMS**
- 4.2.1      Prioritization for timely dispatch of Emergency Teams should be made when preparing to dispatch a team. **(SOS 99-1711)**
- 4.2.1.1    Search and Rescue Teams, Trouble Shooting, Investigative Teams, etc. may not require an extensive brief, and when possible should be expedited through the process and dispatched in a timely manner. **(SOS 99-1711)**
- 4.2.1.2    Repair Teams with detailed work instructions, assigned a seldom performed task, or multiple tasks may require a more extensive brief and/or copies of drawings, procedures, etc.
- 4.2.2      Complete Attachment 1, Emergency Team Briefing and Debriefing Checklist, per each team to be dispatched.
- 4.2.2.1    The ETC or designee conducts a task brief, Section II, Attachment 1.
- 4.2.2.2    If conditions warrant, the Health Physics Coordinator or designee conducts a briefing on radiological conditions/hazards, Section III, Attachment 1. **(SOS 97-1061)**
- 4.2.3      Copies of Attachment 1, Emergency Team Briefing and Debriefing Checklist, should be provided to the Emergency Team leader.
- 4.2.4      Record Emergency Team on the Emergency Team Status Board
- 4.2.5      Dispatch Emergency Team ensuring they check out with Security prior to leaving the TSC.
- 4.2.6      Ensure the OSC is informed the Emergency Team has been dispatched.
- 4.2.7      Maintain communications with the team at intervals specified during the briefing and relay any plant announcements to the team. **(COMN 5402)**
- 4.2.8      Ensure the OSC is informed of the status of all Emergency Teams at frequent intervals.

4.3        DEBRIEFING OF EMERGENCY TEAMS

- 4.3.1        As soon as possible, debrief the team in accordance with Section IV of Attachment 1, Emergency Team Briefing and Debriefing Checklist.
- 4.3.2        Ensure the Emergency Coordinator is notified of accidental or emergency dose in excess of occupational limits.
- 4.3.3        Assign team members to other duties as required.

5        FINAL CONDITIONS

- 5.1        The Emergency Team Coordinator ensures the following actions are accomplished:
  - 5.1.1        Emergency Team members are debriefed and assigned other duties.
  - 5.1.2        Attachment 1 is completed.
  - 5.1.3        Emergency Team Status Board is up to date.

6        REFERENCES

- 6.1        Callaway Plant Radiological Emergency Response Plan (**RERP**).
- 6.2        **EIP-ZZ-00102**, Emergency Implementing Actions
- 6.3        **HDP-ZZ-01450**, Authorization to Exceed Federal Occupational Dose Limits
- 6.4        **HDP-ZZ-01300**, Internal Dosimetry Program.
- 6.5        **APA-ZZ-00310**, Workman's Protection Assurance and Caution Tagging
- 6.6        **APA-ZZ-00802**, Confined Space Program
- 6.7        **SDP-ZZ-00010**, Radio Use

7        RECORDS

7.1        QA RECORDS

7.1.1       Attachment 1, Emergency Team Briefing and Debriefing Checklist  
(File K171.0010).

7.2        COMMERCIAL RECORDS

None



## EMERGENCY TEAM BRIEFING AND DEBRIEFING CHECKLIST

### TEAM DESIGNATOR

- ☐
- EMERGENCY REPAIR TEAM
- ☐
- SEARCH & RESCUE TEAM
- ☐
- INVESTIGATIVE
- ☐
- TROUBLESHOOTING
- ☐
- OTHER

## I. TEAM FORMATION.

- Emergency Repair Teams require two (2) individuals. **COMN 3325**
- Search and Rescue Teams require two (2) individuals, one must be qualified First Aid. **COMN 3324**
- Complete top portion of page 5, detach and give to HPC or designee.

NAME	EID	First Aid Yes/ No

NAME	EID	First Aid Yes/ No

## II. TASK BRIEFING

- ☐
- Description of Task:**
- (Perform assessment, operations, or repairs)

☐ **Task Location:**

- Proceed to the location where emergency repair is to be performed. Report abnormal conditions to the Emergency Team Coordinator (ETC).
- After arriving at the repair location assess equipment operability and habitability conditions; report the following to the ETC:
  - Extent of damage/equipment status.
  - Abnormal and/or unusual conditions.
  - Additional assistance needed (e.g., tools, equipment, personnel, etc.).
  - Dose rate and contamination levels. (if necessary).
- For Search and Rescue Teams, consider the following:
  - Request Fire Brigade Leader Support, if available.
  - Coordinate efforts with the Control Room and Security Coordinator.
  - Search areas and search patterns are clearly defined (e.g. room #, north to south, elevation #, east to west)

- ☐ **Special tools, vehicles, equipment needed:**

- Perform safety and operability checks on equipment. Replace/substitute equipment, if necessary.

- ☐ **Keys** (may be obtained from these locations)

Security Coordinator / OSC Packet (tool room keys) / TSC key locker

- ☐ **Communications:** (Maintain communications with the ETC at predetermined intervals)

(Radio -channel, Gaitronics-channel, Telephone-No.)

- Radio usage is prohibited in "No Transmission Areas" as identified by orange signs in the Plant. Refer to Page 5. (SOS 99-1711)

Radio or telephone check performed sat.

- ☐ **Personal Safety:**

### Personal Protective equipment

- |                       |          |                                   |
|-----------------------|----------|-----------------------------------|
| • Fall Protection     | No / Yes |                                   |
| • Face Protection     | No / Yes |                                   |
| • Chemical Protection | No / Yes |                                   |
| • Gloves              | No / Yes |                                   |
| • Bunker Gear         | No / Yes | Yes, requires Fire Brigade Member |
| • Level A Suit        | No / Yes | Yes, requires Fire Brigade Member |
| • Proximity Suit      | No / Yes | Yes, requires Fire Brigade Member |
| • SCBA                | No / Yes | Yes, requires Fire Brigade Member |

- ## ☐ Hazards

- |                         |          |         |
|-------------------------|----------|---------|
| • Electrical Conductors | No / Yes |         |
| • CSEP (APA-ZZ-00802)   | No / Yes |         |
| • WPA (APA-ZZ-00310)    | No / Yes | # _____ |
| • Fire (EIP-ZZ-00226)   | No / Yes |         |
| • HAZMAT (EIP-ZZ-03010) | No / Yes |         |
| • OTHER (Specify)       | No / Yes | # _____ |

• ETC phone 68426 or \_\_\_\_\_  
• Radio Channel 1 or \_\_\_\_\_  
Primary: \_\_\_\_\_ Secondary: \_\_\_\_\_  
Contact Intervals: 15min/30min/ Other \_\_\_\_\_

Task Brief complete by: \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_  
(ETC or Designee)

- ☐ Copy of briefing form to team leader.
- ☐ Sign out team on Emergency Team Status Board
- ☐ Check out with Security

**EMERGENCY TEAM BRIEFING AND DEBRIEFING CHECKLIST**

TEAM DESIGNATOR \_\_\_\_\_

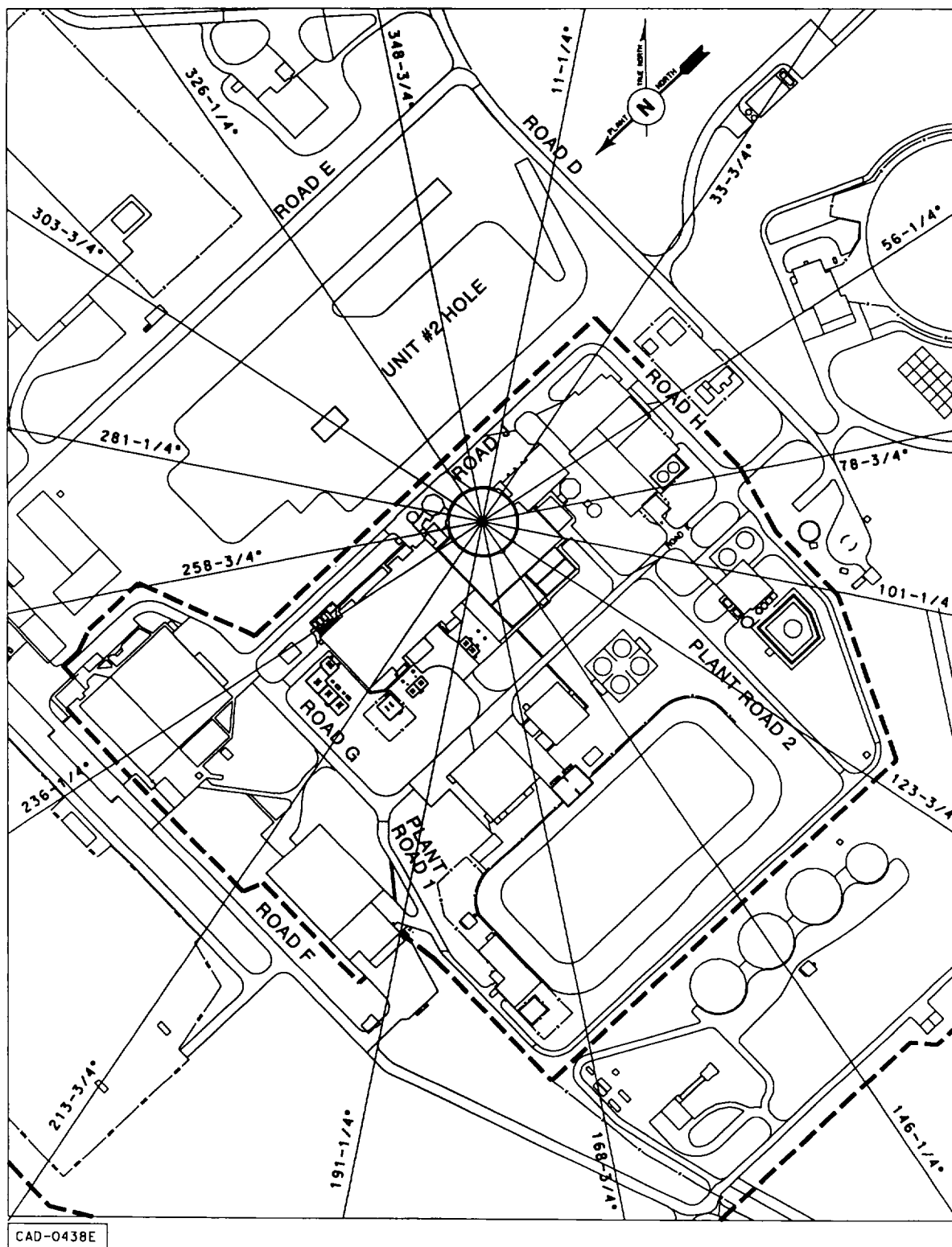
☐ EMERGENCY REPAIR TEAM    ☐ SEARCH & RESCUE TEAM    ☐ INVESTIGATIVE    ☐ TROUBLESHOOTING    ☐ OTHER
**IV. TEAM DEBRIEFING**

Task Completion	Remarks
<input type="checkbox"/> Job done      YES / NO <input type="checkbox"/> Dosimetry reading recorded as Exit Dose (Section I) <input type="checkbox"/> If an individual's dose is in excess of 10CFR20 limits, follow instructions in <b>HDP-ZZ-01450</b> . <input type="checkbox"/> Personnel signed out on RWP. (Section I) <input type="checkbox"/> Collect ED's and any Extremity TLD's, that were issued. <input type="checkbox"/> Survey data obtained. (Attach copies). <input type="checkbox"/> Actions Taken: _____ _____ _____ _____ _____ _____ _____	
<input type="checkbox"/> Further Actions Needed: _____ _____ _____ _____ _____ _____ _____	
<input type="checkbox"/> Unanticipated problems or hazards encountered (include on future briefs): _____ _____ _____ _____ _____ _____ _____	
<input type="checkbox"/> Complete and collect all records.	

Debriefing Performed by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_

**EMERGENCY TEAM BRIEFING AND DEBRIEFING CHECKLIST**

TEAM DESIGNATOR \_\_\_\_\_

☐ EMERGENCY REPAIR TEAM   ☐ SEARCH & RESCUE TEAM   ☐ INVESTIGATIVE   ☐ TROUBLESHOOTING   ☐ OTHER


**EMERGENCY TEAM BRIEFING AND DEBRIEFING CHECKLIST**

TEAM DESIGNATOR \_\_\_\_\_

☐ EMERGENCY REPAIR TEAM   ☐ SEARCH & RESCUE TEAM   ☐ INVESTIGATIVE   ☐ TROUBLESHOOTING   ☐ OTHER**NO RADIO TRANSMISSION AREAS****By Door Number and Description**

<b><u>Room No.</u></b>	<b><u>Room Description</u></b>
1127	Area 5
1207	Area 5
1329	Area 5
1409	South Electrical Penetration Room
1409	South Electrical Penetration Room
1410	North Electrical Penetration Room
1410	North Electrical Penetration Room
1413	Auxiliary Shutdown Panel Room
1507	Containment
3301	NB01 Switchgear Room
3302	NB02 Switchgear Room
3302	D/G 'A' Room
3302	D/G 'B' Room
3403	DC Switchboard Room
3404	DC Switchboard Room
3404	DC Switchboard Room
3405	DC Switchboard Room
3405	DC Switchboard Room
3407	DC Switchboard Room
3407	DC Switchboard Room
3408	DC Switchboard Room
3408	DC Switchboard Room
3409	DC Switchboard Room
3409	DC Switchboard Room
3502	Lower Cable Spreader Room
3604	Control Room
3604	Control Room
3604	Control Room
3605	Control Room
3605	Control Room
3609	SAS Room
3609	SAS Room
3801	Upper Cable Spreader Room
4101	BOP Battery Charger/Inverter
4504	EHC Control Cabinet Room
4504	EHC Control Cabinet Room

**EMERGENCY TEAM BRIEFING AND DEBRIEFING CHECKLIST**

TEAM DESIGNATOR \_\_\_\_\_

☐ EMERGENCY REPAIR TEAM ☐ SEARCH & RESCUE TEAM ☐ INVESTIGATIVE ☐ TROUBLESHOOTING ☐ OTHER**III. HEALTH PHYSICS BRIEF (required if, or the potential for, a radiological hazard exists.)**

Name	EID	Exposure Margin (mRem)	Debriefed Yes/No	RWP Sign-Out	EXIT Dose (mRem)
(ETC Complete)					
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	
				<input type="checkbox"/>	

<b>Radiological Work Permit:(SOS 98-3482)</b> <input type="checkbox"/> Emergency RWP (enter year)      — — — 9 1 1 2 0 <input type="checkbox"/> SRWP Number:      — — — — — — — — — — <b>Radiological Protection:</b> <ul style="list-style-type: none"> <li>Do not enter areas where radiation levels are not measurable.</li> <li>If anticipated dose is in excess of 10CFR20 limits, follow instructions in <b>HDP-ZZ-01450</b></li> <li>ED Fast Entry mode should only be used for initial entries. Current Occupational Dose DOES NOT have to be considered when assigning Emergency Dose Limits. If dose rate alarm is received during the dispatch of the Team, contact the HPC to determine if the Team should proceed.</li> </ul> <input type="checkbox"/> Dosimetry (monitor approx. 15-30 minutes) (SOS 98-3482) (COMN 3960) <input type="checkbox"/> Alarms – Fast Entry Dose(mRem) <u>1000</u> Dose Rate(mRem/hr) <u>10000</u> <input type="checkbox"/> Other Dose(mRem) _____ Dose Rate(mRem/hr) _____ <input type="checkbox"/> Extremity Dosimetry None / Location: _____ <input type="checkbox"/> PC's (circle one): None / Partial / Full / Double <input type="checkbox"/> Respirator (circle one): None / Full Face Air Purifying / GMRI / SCBA (Fire Brigade Member) <b>Turnaround Dose/Dose Rate :(SOS 98-3482)</b> <ul style="list-style-type: none"> <li>If dose rate alarm is received by Team, contact the HPC for further instructions. Team can continue and seek low dose area with approval of HP Coverage Technician. Withdrawal of the Team should be based on integrated dose.</li> </ul> <input type="checkbox"/> En route to job site 10 R/hr / Other _____ <input type="checkbox"/> At job site 10 R/hr / Other _____ <b>Radiological Conditions: (if known) (SOS 98-3482)</b> <ul style="list-style-type: none"> <li>Conditions in route to the job site. <input type="checkbox"/> Not Known</li> </ul> <input type="checkbox"/> Routes (circle one) No release Release in progress - see map. <input type="checkbox"/> Radiation Levels (mrem/hr) _____ <input type="checkbox"/> Contamination Levels (dpm/100cm <sup>2</sup> ) _____ <input type="checkbox"/> Airborne (DAC): Particulate _____ Iodine _____ Noble Gas _____ <input type="checkbox"/> High Beta Radiation(mrad/hr) _____ <ul style="list-style-type: none"> <li>Conditions at the job site <input type="checkbox"/> Not Known</li> </ul> <input type="checkbox"/> Radiation Levels (mrem/hr) _____ <input type="checkbox"/> Contamination Levels (dpm/100cm <sup>2</sup> ) _____ <input type="checkbox"/> Airborne (DAC): Particulate _____ Iodine _____ Noble Gas _____ <input type="checkbox"/> High Beta Radiation(mrad/hr) _____ <b>Decon Facilities (SOS 98-2961)</b> <input type="checkbox"/> HPAC <input type="checkbox"/> TSC <input type="checkbox"/> Other _____ <b>Recommend Potassium Iodide:</b> <input type="checkbox"/> No <input type="checkbox"/> Yes <ul style="list-style-type: none"> <li>You should <u>not</u> take KI if you are allergic to iodine.</li> <li>If the use of KI is recommended follow instructions in <b>HDP-ZZ-01300</b>, Attachment 1</li> </ul>	Remarks
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HPC Review \_\_\_\_\_

Health Physics Brief Performed by \_\_\_\_\_ Date \_\_\_\_\_ Time \_\_\_\_\_