E. M. Mansfield — 12-2-82
Form Approved by Station Superintendent — Effective Date

STATION PROCEDURE OR FORM CHANGE

A. IDENTIFICATION

PROCEDURE OR FORM NUMBER (Circle One) 2384 REV. 2 CHANGE NO. 1

PROCEDURE OR FORM TITLE (Circle One) ENGINEERED Safeguard Act. System.

INITIATED BY DWG

B. CHANGE

See Attached.

C. REASON FOR CHANGE

To add Section to Procedure to RESTORE Actuation System when shutdown and Valid PZR Press and S/G Pressure Trips are Blocked.

D. NON-INTENT CHANGE AUTHORIZATION (N/A for Intent Changes)

TITLE	SIGNATURE	DATE
Shift Supervisor (on duty)		

E. REVIEWED

Department Head J. J. Berg for — 3/23/83

Unreviewed Safety Question Evaluation Documentation Required:
(Significant change in procedure method or scope as described in FSAR)
(If yes, document in PORC/SORC meeting minutes) [ ] YES [ ] NO

ENVIRONMENTAL IMPACT

(Adverse environmental impact)
(If yes, document in PORC/SORC meeting minutes) [ ] YES [ ] NO

F. PORC/~~SORC~~ RECOMMENDS APPROVAL (or confirmation of interim change within 14 days)

PORC/~~SORC~~ Meeting Number 2-83-36

G. APPROVAL AND IMPLEMENTATION

The change is hereby implemented and is effective this date, except for interim changes which were implemented and effective per the Authorization of D above.

John S. Keenan for — 4/7/83
Station Superintendent/Unit Superintendent — Date

SF-302
Rev. 6
Page 1 of 1

PROCEDURE FOR RESTORING +24VDC POWER TO THE ESAS ACTUATION CABINET WHEN IN THE SHUTDOWN MODE WITH VALID PRZ. PRESS. AND S/G PRESS. TRIPS.

1. REMOVE BOTH THE +15VDC POWER FUSES AT THE AFFECTED ACTUATION CABINET. THIS ACTION WILL RESET THE TRIP LATCH CIRCUITRY. (WITH THE EXCEPTION OF THE SIAS, CIAS, EBFAS AND MSI ACTUATION MODULES)

2. RE-INSTALL THE +15VDC FUSES REMOVED IN STEP 1.

3. AT THE AFFECTED ACTUATION CABINET, PUSH THE EIGHT (8) "ACTUATION RESET" PUSH-BUTTONS. ie; SIAS, SRAS, EBFAS, AEAS, CSAS, MSI, UV. AND CIAS.

NOTE: AT THIS POINT ALL ACTUATION MODULES SHOULD BE RESET WITH THE EXCEPTION OF THE SIAS, CIAS, EBFAS AND MSI MODULES.

CAUTION: THE IMPLEMENTATION OF STEP FOUR (4) WILL CAUSE THE FOLLOWING TO OCCUR;

1. EBFAS ACTUATION WILL OCCUR.
2. CTMT SAMPLE VLV. (RAD MONITORS) WILL SHUT.
3. ENGINEERED SAFEGUARDS ROOM VENTILATION WILL SHIFT. (INBOARD AND OUTBOARD)

4. AT THE AFFECTED ACTUATION CABINET, INSTALL THE +24VDC POWER "BLOCK" FUSE.

5. AT PANEL C01 RE-ESTABLISH THE SIAS AND MSI BLOCKS.

6. AT THE AFFECTED ACTUATION CABINET, PUSH AND HOLD IN THE "ACTUATION RESET" PUSH-BUTTONS.

7. RE-INSTALL THE REMAINING +24VDC POWER FUSE.

8. AT THIS POINT THE AFFECTED ACTUATION CABINET SHOULD BE RESTORED TO THE FULLY OPERATIONAL MODE WITH ALL BLOCK FUNCTIONS INITIATED. IF THIS IS NOT THE CASE CONTACT THE UNIT 2 I&C DEPT. FOR RESOLUTION.

D.W. CLARK U-2 I&C ENGINEER
3-19-82

E.J. Mroczka
Form Approved by Station Superintendent

12-28-81
Effective Date

STATION PROCEDURE COVER SHEET

A. IDENTIFICATION

Number OP 2384 Rev. 2

Title ENGINEERED SAFEGUARDS ACTUATION SYSTEM OPERATION

Prepared By S. J. Baker

B. REVIEW

I have reviewed the above procedure and have found it to be satisfactory.

TITLE	SIGNATURE	DATE
DEPARTMENT HEAD	[signature]	2/17/83

C. UNREVIEWED SAFETY QUESTION EVALUATION DOCUMENTATION REQUIRED:

(Significant change in procedure method or scope as described in FSAR)
(If yes, document in PORC/SORC meeting minutes) YES [ ] NO [X]

ENVIRONMENTAL IMPACT

(Adverse environmental impact)
(If yes, document in PORC/SORC meeting minutes) YES [ ] NO [X]

D. PORC/~~SORC~~ APPROVAL

PORC/~~SORC~~ Meeting Number 2-83-11

E. APPROVAL AND IMPLEMENTATION

The attached procedure is hereby approved, and effective on the date below:

[signature]
Station/Service/Unit Superintendent

3/3/83
Effective Date

SF-301
Rev. 5

UNIT 2

ENGINEERED SAFEGUARDS ACTUATION SYSTEM

OPERATION

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1. OBJECTIVE

1.1 The objective of this procedure is to provide instructions for the startup, shutdown, normal and casualty operation of the Engineered Safeguards Actuation System.

2. LICENSE REQUIREMENTS

2.1 Technical Specifications: 3.3.2.1

3. FSAR REFERENCES

3.1 Chapter 6

3.2 Chapter 7, Section 7.3

3.3 Other: Logic Drawing 25203-28150, Sh. 1-4

4. PLANT OPERATING REQUIREMENTS

4.1 The system functions are implemented by means of redundant sensors, instrument loops, logic and actuation devices. Independence is provided between redundant elements to preclude any interactions between channels during maintenance or in the event of channel malfunction. Redundant elements are electrically isolated from each other such that events affecting one element are not reflected in any other element.

4.2 The Engineered Safety Actuation System detects incident conditions and initiates the safety features systems which are designed to localize, control, mitigate, and terminate such incidents. The Engineered Safety Features Actuation System is divided into four sensor channels (A, B, C, and D), two actuation channels, and two logic channels for sequentially loading the emergency generators.

4.3 All process variables are transmitted as analog signals. Loss of voltage on the 4.16kV emergency bus is detected by potential transformers and bistables.

4.4 Four essential or vital power sources are provided for the ESAS. Two emergency diesel generators are provided to supply power to the actuated equipment of the protective systems in case of loss of offsite power.

4.5 If offsite power is available, the safeguards equipment starts directly. If offsite power is not available, load shedding and sequencing are required for sequential loading of the diesel generators.

4.6 Each actuation channel (1 or 2) of each of the following actuation signals can be initiated by a pushbutton located on the main control board: SIAS, CSAS, CIAS, EBFAS, SRAS, MSI, and AEAS. Each pushbutton initiates all actuation groups of the associated signal within its respective actuation channel.

5. PREREQUISITES

5.1 120 VAC power is available through vital AC panels:

VIAC-1 (VA 10)	Circuit Breaker 14
VIAC-1 (VA 10)	Circuit Breaker 18
VIAC-3 (VA 30)	Circuit Breaker 10
VIAC-2 (VA 20)	Circuit Breaker 17
VIAC-2 (VA 20)	Circuit Breaker 18
VIAC-4 (VA 40)	Circuit Breaker 12

5.2 Detectors and bistables must meet calibration requirements as per Technical Specification requirements, Section 4.3.2.1.1.

6. PRECAUTIONS

6.1 Do not test more than one channel at a time.

6.2 When shutting down, ensure Main Steam Isolation Actuation trips are blocked prior to decreasing steam generator pressure below 520 PSIA.

6.3 The manual pushbuttons on C01 are used only to manually initiate safeguards actuation.

6.4 When cooling down and depressurizing the Reactor Coolant System, ensure the Pressurizer Pressure Channel trips are blocked (SIAS Block) prior to decreasing coolant pressure below 1620 PSIA.

6.5 Do not test a parameter in which one channel is already tripped.

6.6 If an ESAS actuation has occurred and the signal cannot be reset, all equipment shall remain in the actuated condition unless (1) personnel or equipment safety will be affected, (2) specific operating procedures allow or require the signal to be overridden, or (3) the equipment is not required for the mode. If the signal to any equipment is overridden, credit for operability shall not be taken and the requirements of the appropriate action statement met. Bypass (override) status of ESAS actuated components shall be determined per surveillance shift checks.

7. PROCEDURE

7.1 Power Application

NOTE: This section should only be performed when the ESAS is initially de-energized.

NOTE: Refer to section 7.9 or 7.10 for restoration of ESAS cabinets (sensors and actuation) following loss of a vital instrument AC Bus (VA-10, 20, 30, or 40) or a fault resulting in sensor cabinet trips, actuation module trips, blown -15V, -15V, or +24V fuses on the actuation cabinets.

7.1.1 Bypass each sensor cabinet's inputs before energizing the cabinets.

7.1.2 Supply 120 VAC to the ESAS sensor cabinets and the actuation cabinets:

a) At VIAC-1 CLOSE Breaker 14 (VA 1014)
b) At VIAC-1 CLOSE Breaker 18 (VA 1018)
c) At VIAC-2 CLOSE Breaker 17 (VA 2017)
d) At VIAC-2 CLOSE Breaker 18 (VA 2018)
e) At VIAC-3 CLOSE Breaker 10 (VA 3010)
f) At VIAC-4 CLOSE Breaker 12 (VA 4012)

7.1.3 Reset any bistable module trip lamps (red) that are lighted, by depressing lamp.

7.2 Switch Alignment

NOTE: For the following switch alignments, each sensor channel is similar. Both actuation cabinets are similar to each other. Thus, switch alignment for only Channel A sensor cabinet and one actuation cabinet will be listed. Exceptions will be listed separately.

7.2.1 Sensor Cabinets

7.2.1.1 Calibration - test drawer

7.2.1.1.1 Calibration Test Selector switch in OPERATE.

a) Seve Operate/Test switches in OPERATE (Spring return to OPERATE).

7.2.1.1.2 Trip Test switch in OPERATE.

7.2.1.1.3 Test Current Voltmeter switch in OFF.

7.2.1.2 Bistable modules

7.2.1.2.1 Trip lamp (red) - Push to reset lamp.

7.2.1.2.2 UV Test Panel Selector switch in OPERATE.

7.2.2 Actuation Cabinets

7.2.2.1 Test Permissive switch, S-501 (601) in OPERATE.

7.2.2.2 Test Group switch, S-502 (602) in GROUP 1.

7.2.2.3 Actuation reset: Seven reset pushbuttons reset the actuation modules after they have been tripped and conditions have returned to normal.

NOTE: Also housed in actuation cabinet 5 is the Auto Test Inserter (ATI). The ATI provides an automatic test capability for the

ESAS. It generates the dual, 2 millisec pulses which are routed to each channel bistable (in combinations) to simulate a momentary fault trip for test purposes.

7.3 Channel Bypass

7.3.1 When any of the below conditions exist, use the parameter bypass key(s) to place the affected parameter(s) in a 2/3 logic condition.

7.3.1.1 Surveillance of one channel

7.3.1.2 Channel malfunction or inoperability as required (see Technical Specifications)

NOTE: Loss of vital AC power to either actuation cabinet will trip all the actuation modules associated with that cabinet.

NOTE: A loss of vital AC power to one of the four sensor cabinets will result in a one out of four trip on both actuation cabinets even if all parameters on that cabinet are inhibited.

7.3.2 Observe the ESAS 2/3 Logic Alarm Annunciator at Panel C01 for the affected channel(s).

7.4 Manual Operation

NOTE: Manual initiation of any of the below safeguards functions can be accomplished by depressing the pushbuttons (covered) on the apron section of Panel C01.

7.4.1 Lift pushbutton cover.

7.4.2 Depress desired pushbutton.

7.4.3 Observe indications to ensure channel has been initiated.

7.4.4 Verify equipment response by observing blue lights on C01X.

7.5 Manual Blocks

7.5.1 MSI Actuation Block

7.5.1.1 Observe the following conditions:

7.5.1.1.1 Any 3 out of 4 channels Steam Generator decreased to 600 PSIA.

7.5.1.1.2 SG Press Ch 1 (Ch 2) Manual Block Permitted Annunciator at C01 Panel, Window A25 (or C25).

7.5.1.2 Depress MSI Channel 1 Block (or Ch 2) pushbutton on Panel C01.

7.5.1.3 Observe SG Ch 1 Lo Lo Press Manually Blocked (or Ch 2) annunciated at Panel C01, Window B25 (or D25).

7.5.2 Pressurizer Pressure SIAS Block

7.5.2.1 Observe the following conditions:

7.5.2.1.1 Any 3 out of 4 channels Pressurizer Pressure decreased below 1750 PSIA.

7.5.2.1.2 Pzr Press SIAS Ch 1 (or Ch 2) Manual Block Permitted Annunciator at C01 Panel, Window A19 (or C19).

7.5.2.2 Depress SIAS Ch 1 Block (or Ch 2) pushbutton on C01.

7.5.2.3 Observe SIAS Blocked Ch 1 (or Ch 2) Annunciator at C01 on Window B19 (or D19).

7.6 Safeguards Status Panel (C01X)

7.6.1 Test Pushbuttons: Channel 1, 2, and 5 - Depress Test pushbutton to test indicator lamps.

NOTE: Blue lamps indicate actuation (Trip) condition and White lamps indicate a component which will not function as intended (Loss of Power).

7.7 Auto Test Inserter (ATI) - Cabinet 5

NOTE: The ATI unit performs a recurring test sequencing operation which is repeated every 27 seconds. It generates the dual 2 ms pulses which are routed to each channel bistable (in combinations) to simulate a momentary fault trip for test purposes. Each channel is tested end-to-end in a programmed sequence. All test results are routed back to the 6N91 module over reset lines. Each bistable test status is synchronously sampled during its test time by timing pulses. The test results are indicated locally by a panel ATI fault lamp. The testing sequence order is:

a) SG A Press, SG B Press, UV-3A, UV-4A, Area Exhaust Radiation, RWST Level, Pressurizer Pressure, Containment Pressure Hi and Containment Pressure Hi-Hi; using two channels at a time: Channels A and B, A and C, A and D, B and C, B and D, C and D.

b) Containment Radiation Ch A, Containment Radiation Ch B, Containment Radiation Ch C, Containment Radiation Ch D.

c) Sequence A, Sequence B.

7.7.1 Refer to SP 2619A for shift check of ATI operation.

7.8 Actuated Equipment Override

NOTE: Components which receive ESAS actuation signals are provided with control schemes to allow override of the actuation signal and positioning/operation of the component to a condition other than that called for by ESAS.

NOTE: Certain of the ESAS actuated components receive dual actuation signals, and overriding the actuation of the component with one actuation signal present also prevents actuation by the other signal. The following components receiving dual actuation signals are of this type:

Component	Actuation
2-MS-220A/HV-4246 - SG1 Blowdown Isolation	CIAS-1 Closes RIS4262Closes
2-MS-220B/HV-4248 - SG2 Blowdown Isolation	CIAS-2Closes RIS4262Closes
2-EB-60/HV-8143 - Fuel Handl. Area Vent to Plenum	EBFAS-1Closes AEAS-1Opens
2-EB-61/HV-8062 - Fuel Handl. Area Vent to Plenum	EBFAS-2Closes AEAS-2Opens
2-EB-55/HV-8654 - SJAE Discharge to Stack	EBFAS-2Closes AEAS-2Closes
2-EB-56/HV-8695 - SJAE CTMT Leak Cleanup	EBFAS-1Closes AEAS-1Closes
2-EB-41/HV-8070 - EBFS AO Damper	EBFAS-2Opens AEAS-2Opens
2-EB-51/HV-8074 - EBFS AO Damper	EBFAS-1Opens AEAS-1Opens
2-EB-50/HV-8153 - EBFS MO Damper	EBFAS-1Opens AEAS-1Closes
2-EB-40/HV-8063 - EBFS MO Damper	EBFAS-2Opens AEAS-2Closes
2-EB-72/HV-8650 - CTMT Leak Cleanup	EBFAS-1Closes AEAS-1Closes

2-EB-73/HV-8651	- CTMT Leak Cleanup	EBFAS-2Closes AEAS-2Closes
F25A	- EBFS Fan	EBFAS-1Starts AEAS-1Starts
F25B	- EBFS Fan	EBFAS-2Starts AEAS-2Starts
F32A	- Control Room Filter Fan	EBFAS-1Starts AEAS-1Starts
F32B	- Control Room Filter Fan	EBFAS-2Starts AEAS-2Starts

NOTE: If EBFAS is initially present, AEAS has no effect.

7.8.1 Refer to Precaution 6.6 prior to bypassing any equipment actuated by any ESAS.

7.8.2 For determining applicable action statements, refer to the note above for equipment with dual signals.

7.9 Restoration of sensor cabinets 'D' and C (cabinets 3 and 4).

7.9.1 Following sensor cabinet alarms and other indications of a lost bus or bus transfer, verify AC power restored to the cabinet.

7.9.2 If power has not been restored verify breaker VA3010 or VA4012 (for cabinet 3 or 4) closed.

7.9.3 Upon restoration of AC power to the sensor cabinet, reset all bistables by depressing the bistable trip lamp.

7.9.4 Verify all 1 out of 5 lamps on actuation cabinets 5 and 6 have reset based on plant conditions.

7.9.5 If the previous steps do not resolve the sensor cabinet trips, bypass the channel inaccordance with Tech Specs and have the I&C Department investigate.

7.10 Restoration of sensor cabinets A and B (cabinets 1 and 2) and actuation cabinets 5 and 6.

7.10.1 Following sensor cabinet alarms and other indications of a lost bus or bus transfer, verify AC power restored to the sensor and actuation cabinet.

7.10.2 If power has not been restored verify breakers VA1014 & VA101B are closed for sensor cabinet 1 and actuation cabinet 5 or breakers VA2017 and VA2018 are closed for sensor cabinet 2 and actuation cabinet 6.

7.10.3 Upon restoration of AC power to the sensor cabinet, reset all bistables by depressing the bistable trip lamp.

7.10.4 Verify all input parameters are indicating properly.

7.10.5 Check all 1 out of 5 lamps on actuation cabinet are extinguished. Some 1 out of 5 lamps may be on depending on plant conditions. This is particularly true of the CTMT radiation causing purge valve actuation.

NOTE: Any pertibations on the 120 VAC bus cause pertibations on the +15V power in the actuation cabinet. This in turn will cause the 'crow bar' circuit to blow the 24 volt fuses.

7.10.6 Examine the actuation cabinet for blown fuses and/or trips. Attempt to reset any trips by depressing the actuation signal reset buttons.

7.10.7 If the 24 volt fuses are blown remove them from the fuse holder.

7.10.8 Again attempt to reset any trip lamps on the actuation modules using the reset buttons.

7.10.9 If actuation signal trips cannot be reset, remove the +15 volt fuse, then re-insert this action should clear all trip signals. If not, have I&C investigate the problem.

7.10.10 The 24 volt fuses may now be re-insert/replaced without actuation.

8. ALARMS AND MALFUNCTIONS

8.1 ESAS UV Ch 1 Trip - C01 - C33

Initiating Device		Setpoint
Bistable AM 527		85.5 VAC

ACTION

Auto

a)	Breaker 52-A302 Trip		(RSST #1 Supply to Bus 24C)
b)	Breaker 52-A304 Trip		(24A Bus Supply to Bus 24C)
c)	Load shed	P11A	(RBCCW)
d)	Load shed	P41A	(HPSI)
e)	Load shed	P5A	(Service Water)
f)	Load shed	P43A	(Containment Spray)
g)	Load shed	L105	(Press. Prop. Htrs, Group 1)
h)	Load shed	P9A	(Aux. Feed Pump)
i)	Load shed	L046A	(CEDM MG Set #1)
j)	DG Auto Start		
k)	OKR 52-A305 Permissive		(Bus 24C Supply to Bus 24E)
l)	Load shed	P11B	(RBCCW)
m)	Load shed	P41B	(HPSI)
n)	Load shed	P5B	(Service Water)
o)	Breaker 52-A505 Trip		(24F Bus Supply to 24E)

Initial and Subsequent

a) Monitor Status panel to ensure auto action occurs.

b) Refer to Emergency Procedure 2503 (LNP).

8.2 ESAS UV Channel 2 Trip - C01 - D33

Initiating Device	Setpoint
Bistable AM 627	85.5 VAC

ACTION

Auto

a)	Breaker 52-A410 Trip		(24B Bus Supply to 24D)
b)	Breaker 52-A411 Trip		(RSST #1 Supply to 24D)
c)	Load shed	P11C	(RBCCW)
d)	Load shed	P41C	(HPSI)
e)	Load shed	P42B	(LPSI)
f)	Load shed	P5C	(Service Water)
g)	Load shed	P43B	(Containment Spray)
h)	Load shed	L106	(Press. Prop. Htrs, Group 2)
i)	Load shed	P9B	(Aux. Feed Pump)
j)	Load shed	L046B	(CEDM MG Set #2)
k)	DG Auto Start		
l)	Breaker 52-A408 Permissive		(24D Bus Supply to 24E)
m)	Load shed	P11B	(RBCCW)
n)	Load shed	P41B	(HPSI)
o)	Load shed	P5B	(Service Water)
p)	Breaker 52-A505 Trip		(24F Bus Supply to 24E)

Initial and Subsequent

a) Monitor indications to ensure auto action occurs.

b) Refer to Emergency Procedure 2503.

8.3 SIAS Actuation Signal Ch 1 Trip - C01 - A34

Initiating Device	Setpoint
Any one of SIAS bistables 1A through 12A	2/4 Cont Press at 3.8 PSIG 2/4 Przr Press at 1620 PSIA

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1A	AM 515	1	P14A Ctmt Air Recirc Cooler.....	Start Half Speed
1A	AM 515	1	P14C Ctmt Air Recirc Cooler.....	Start Half Speed

1A	AM 515	1	P5A Service Water Pump.....Start
1A	AM 515	1	P5B Service Water Pump (5).....Start
2A	AM 514	1	P41A HPSI Pump.....Start
2A	AM 514	1	P41B HPSI Pump (5).....Start
2A	AM 514	4	F112A Battery Room Vent Fan.....Start
3A	AM 516	2	P11A RBCCW Pump.....Start
3A	AM 516	2	P11B RBCCW Pump (5).....Start
3A	AM 516	2	P18A Charging Pump.....Start
3A	AM 516	2	P18B Charging Pump.....Start
3A	AM 516	2	1 Key Interlock (NP18B1)
4A	AM 517	3	P42A LPSI Pump.....Start
5A	AM 518	4	Chiller Syst Valves(X169A).....Open
5A	AM 518	4	F54A Vital sw/g Room Cooling Fan.....Start
5A	AM 518	4	P122A Vital sw/g Room Chilled Water Pump.....Start
6A	AM 519		2CH-508 Boric Acid Grav. Feed Valve..Open
6A	AM 519		2CH-509 Volume Control Make-Up Valve.....Open
6A	AM 519		2CH-512 Volume Control Make-Up Valve.....Close
7A	AM 520	4	F15A Eng Sfgrd Rm Air Recirc.....Start
8A	AM 521		2SI-615 LPSI Valve.....Open
8A	AM 521		2SI-625 LPSI Valve.....Open
8A	AM 521		2SI-617 LPSI Valve.....Open
8A	AM 521		2SI-627 HPSI Valve.....Open
8A	AM 521		2SI-637 HPSI Valve.....Open
8A	AM 521		2SI-647 HPSI Valve.....Open
9A	AM 522		2SI-618 SI Check Valve Leakage Cont..Close
9A	AM 522		2SI-628 SI Check Valve Leakage Cont..Close
10A	AM 523		2-SW-81A RBCCW Ht Exch Valve.....Open
10A	AM 523		2-SW-81B RBCCW Ht Exch Valve.....Open
10A	AM 523		2-SW-3.2A TBCCW Ht Exch Valve.....Close
10A	AM 523		2SI-614 SI Tank Outlet Valve.....Open
10A	AM 523		2SI-624 SI Tank Outlet Valve.....Open

10A	AM 523	2CH-515 Reactor Coolant Letdown Valve.....Close
10A	AM 523	2CH-501 Volume Cont Tank Discharge Valve.....Close
11A	AM 524	2-RB-68.1A ES Room RBCCW Air Cooler..Close
11A	AM 524	2-RB-28.3C Ctmt Air Recirc Cool Outlet (C).....Open
11A	AM 524	2-RB-8.1A SFP Hx (A) RBCCW Outlet.....Close
11A	AM 524	2-RB-28.3A Ctmt Air Recirc Cool (A) Outlet.....Open
11A	AM 524	DGH7A Diesel Gen (A).....Start
12A	AM 525	DG SIAS Start Annunciator (C-34) 2-CH-196.....Close

Initial and Subsequent

Refer to Emergency Procedure 2506 and/or 2509.

8.4 SIAS Actuation Signal Ch 2 Trip - C01 - B34

Initiating Device	Setpoint
Any one of SIAS bistables 1B through 12B	2/4 Cont Press at 3.8 PSIG 2/4 Przr Press at 1620 PSIA

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1B	AM 615	1	F14B Ctmt Air Recirc Cooler.....	Start Half Speed
1B	AM 615	1	F14D Ctmt Air Recirc Cooler.....	Start Half Speed
1B	AM 615	1	2CH-514 Boric Acid to Charging Line Valve.....	Open
1B	AM 615	1	P5B Charging Pump.....	Start
1B	AM 615	1	P5C Charging Pump.....	Start
2B	AM 614	1	P41B HPSI Pump.....	Start
2B	AM 614	1	P41C HPSI Pump.....	Start
2B	AM 614	4	Battery Room Vent Fan F112B.....	Start
3B	AM 616	2	P11B RBCCW Pump (B).....	Start

3B	AM 616	2	P11C RBCCW Pump (C).....Start
3B	AM 616	2	P18B Charging Pump (B).....Start
3B	AM 616	2	P18C Charging Pump (C).....Start
3B	AM 616	2	Key Interlock NP18B2
4B	AM 617	3	P42B LPSI Pump (B).....Start
5B	AM 618	4	Chiller System Valve (X169B).....Open
5B	AM 618	4	Chilled Water System Valves.....Open
5B	AM 618	4	Vital sw/g Room Chilled Water Pump P122B.....Start
5B	AM 618	4	Vital sw/g Room Cooling Fan F-54B....Start
6B	AM 619		2CH-510 Boric Acid Recirc Valve.....Close
6B	AM 619		2CH-511 Boric Acid Recirc Valve.....Close
7B	AM 620	4	F15B Eng. Sfgrd Rm Air Recirc.....Start
8B	AM 621		2SI-635 LPSI Valve.....Open
8B	AM 621		2SI-645 LPSI Valve.....Open
8B	AM 621		2SI-616 LPSI Valve.....Open
8B	AM 621		2SI-626 HPSI Valve.....Open
8B	AM 621		2SI-636 HPSI Valve.....Open
8B	AM 621		2SI-646 HPSI Valve.....Open
9B	AM 622		2SI-638 SI Check Valve Leakage Cont..Close
9B	AM 622		2SI-648 SI Check Valve Leakage Cont..Close
9B	AM 622		CEA Cooling Fan F13B.....Start
10B	AM 623		2-SW-8.1C RBCCW Ht Exch Valve.....Open
10B	AM 623		2-SW-8.1B RBCCW Ht Exch Valve.....Open
10B	AM 623		2-SW-3.2A TBCCW Ht Exch Valve.....Close
10B	AM 623		2SI-634 SI Tank Outlet Valve.....Open
10B	AM 623		2SI-644 SI Tank Outlet Valve.....Open
11B	AM 624		2-RB-28.3B Ctmt Air Recirc Cool Outlet (B).....Open
11B	AM 624		2-RB-210 Degasifier Effl Cool Letdown Shutoff.....Close
11B	AM 624		2-RB-28.3D Ctmt Air Recirc Cool Outlet (D).....Open
11B	AM 624		2-RB-68.1B ES Room RBCCW Air Cooler..Open

11B	AM 624		2-RB-8.1B SFP Hx (B) RBCCW Outlet....Close
11B	AM 624		DG-H7B Diesel Gen H7B.....Start
12B	AM 625	2	P19A Boric Acid Pump.....Start
12B	AM 625	2	P19B Boric Acid Pump.....Start
			F 142 Vital Swgr Rm Exhaust Fan

Initial and Subsequent

Refer to Emergency Procedure 2506 and/or 2509.

8.5 CSAS Act Sig Ch 1 Trip - C01 - C34

Initiating Device	Setpoint
Either CSAS bistable 1A, 2A	2/4 Cont Press at 25.8 PSIG

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1A	AM 509	3	P43A Ctmt Spray Pump.....	Start
2A	AM 510	3	2-CS-4.1A Ctmt Spray Cont Valve.....	Open

Initial and Subsequent

Refer to Emergency Procedure 2506 and/or 2509.

8.6 CSAS Act Sig Ch 2 Trip - C01 - D34

Initiating Device	Setpoint
Either CSAS bistable 1B, 2B	2/4 Cont Press at 25.8 PSIG

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1B	AM 609	3	P43B Ctmt Spray Pump.....	Start
2B	AM 610	3	2-CS-4.1B Ctmt Spray Control Valve...	Open

Initial and Subsequent

Refer to Emergency Procedure 2506 and/or 2509.

8.7 CIAS Act Sig Ch 1 Trip - C01 - A35

Initiating Device	Setpoint
Any one of CIAS B/S 1A	2/4 Cont Press at 3.8 PSIG
through 6A	2/4 Przr Press at 1620 PSIA

ACTION

Auto

Test Group	Module #	Equipment	Function
1A	AM 502	2-AC-8 Encl Bldg Purge Outlet Damper	Open
1A	AM 502	2-AC-47 Ctmt Air Sample Valve	Close
1A	AM 502	F39A Ctmt Radiation Monitoring Fan	Stop
1A	AM 502	2-AC-15 Ctmt Air Sample Valve	Close
2A	AM 503	2-MS-220A Stm Gen #1 Blowdown Valve	Close
2A	AM 503	2-MS-191A Stm Gen #1 Sample Line Valve	Close
3A	AM 504	2-EB-99 H_2 Purge Isolation Valve	Close
3A	AM 504	2-EB-100 H_2 Purge Isolation Valve	Close
3A	AM 504	2-EB-88 Ctmt H_2 Monitoring Sample Isolation	Close
4A	AM 505	2CH-505 RCP Controlled Bleedoff Isol Valve	Close
5A	AM 506	2-LRR-43.2 PDT Pump Discharge Valve	Close
5A	AM 506	2-GR-11.2 Waste Gas Surge Tank Inlet Valve	Close
5A	AM 506	2-SSP-16.2 CTMT Sump Isol Vlv Outside CTMT	Close
5A	AM 506	2-PMW-43C Quench Tank Make-up Valve	Close
6A	AM 507	2-AC-1 Ctmt Clean-up Damper	Close
6A	AM 507	2-RC-45 RC Sampling Isolation Valve	Close

Initial and Subsequent

Refer to Emergency Procedure 2506 and/or 2509.

8.8 CIAS Act Sig Ch 2 Trip - C01 - B35

Initiating Device	Setpoint
Any one of CIAS B/S 1B	2/4 Cont Press at 3.8 PSIG
through 6B	2/4 Przr Press at 1620 PSIA

ACTION

Auto

Test Group	Module #	Equipment	Function
1B	AM 602	F23 Ctmt Purge Supply Fan	Stop
1B	AM 602	2-AC-11 Ctmt & Enc Bldg Purge Out Damper	Open
1B	AM 602	2-AC-12 Ctmt Air Sample Valve	Close
1B	AM 602	F39B Ctmt Radiation Monitoring Fan	Stop
1B	AM 602	2-AC-20 Ctmt Air Sample Valve	Close
2B	AM 603	2-MS-220B Stm Gen #2 Blowdown Valve	Close
2B	AM 603	2-MS-151B Stm Gen #2 Sample Line Valve	Close
3B	AM 604	2CH-516 Reactor Coolant Letdown Valve	Close
3B	AM 604	2-CH-089 Reg Ht Exch Disch to Letdown Hx	Close
3B	AM 604	2CH-506 RCP Controlled Bleedoff Isol Valve	Open
4B	AM 605	2-EB-92 H_2 Purge Isolation Valve	Close
4B	AM 605	2-EB-91 H_2 Purge Isolation Valve	Close
4B	AM 605	2-EB-59 Ctmt H_2 Monitoring Sample Isol Valve	Close
5B	AM 606	2-LLR-61.1 PDT Sample Shutoff Valve	Close
5B	AM 606	2-RC-003 Pzr Stm Sampling Valve	Close
5B	AM 606	2-RC-002 Pzr Steam Sampling Valve	Close
5B	AM 606	2-RC-001 RC Hot Leg Sampling Valve	Close
6B	AM 607	2-LRR-43.1PDT Pump Discharge Valve	Close
6B	AM 607	2-GR-11.1 Waste Gas Surge Tk Inlet Valve	Close
6B	AM 607	2-SSP-16.1 Ctmt Drain Sump Isolation Valve	Close
6B	AM 607	2-SI-312 N_2 to SI Tanks Shutoff Valve	Close

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.9 SRAS Act Sig Ch 1 Trip - C01 - C35

Initiating Device	Setpoint
Either SRAS Bistable 1A or 2A	2/4 RWST levels at 5.0%

ACTION

Auto (In association with other actions, i.e., SIAS, CSAS)

Test Group	Module #	Equipment	Function
1A	AM 511	2-RB-13.1A Shutdown Ht Ex A	Open
1A	AM 511	2-CS-16.1A Ctmt Sump Recirc Stop Valve	Open
1A	AM 511	2SI-659 SI Sump Recirc Hdr Shutoff	Close
2A	AM 512	P42A LPSI Pump	Stop

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.10 SRAS Act Sig Ch 2 Trip - C01 - D35

Initiating Device — Setpoint

Either SRAS Bistable 1B or 2B — 2/4 RWST Levels at 5%

ACTION

Auto (In association with other actions, i.e., SIAS, CSAS)

Test Group	Module #	Equipment	Function
1B	AM 611	2-CS-16.1B Ctmt Sump Recirc Stop Valve	Open
1B	AM 611	2SI-660 SI Sump Recirc Hdr Shutoff	Close
1B	AM 611	2-RB-13.1B Shutdown Ht Ex (B) C.W.	Open
2B	AM 612	P42B LPSI Pump	Stop

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.11 MSI Act. Sig Ch 1 Trip - C01 - A36

Initiating Device — Setpoint

MSI Bistable 1A — 2/4 Steam Gen. Pressure Ch 5 @ 520 PSIA

ACTION

Auto

Test Group	Module #	Equipment	Function
1A	AM 532	2-MS-64A Stm Gen #1 Isol Valve	Close
1A	AM 532	2-MS-64B Stm Gen #2 Isol Valve	Close
1A	AM 532	H5A S.G.F.P.T.	Stop

1A	AM 526	2-MS-64A Stm Gen #1 Isol Valve.....Close
1A	AM 526	2-FW-51A Stm Gen #1 F.W. Reg Valve.....Close
1A	AM 526	2-FW-5A Stm Gen #1 F.W. Isol Valve.....Close
1A	AM 526	2-MS-265A Main Stm Leg Low Pt. Drain.....Close

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.12 MSI Act. Sig Ch 2 Trip - C01 - B36

Initiating Device	Setpoint
MSI Bistable 1B	2/4 Steam Gen. Pressure Ch 5 @ 520 PSIA

ACTION

Auto

Test Group	Module #	Equipment	Function
1B	AM 632	2-MS-64A Stm Gen #1 Isolation Valve.....	Close
1B	AM 632	2-MS-64B Stm Gen #2 Isolation Valve.....	Close
1B	AM 632	H5B S.G.F.P.T.....	Stop
1B	AM 626	2-MS-65B Stm Gen #2 Isol Valve Bypass.....	Close
1B	AM 626	2-FW-5B Stm Gen #2 F.W. Isol Valve.....	Close
1B	AM 626	2-FW-51B Stm Gen #2 F.W. Reg Valve.....	Close
1B	AM 626	2-MS-266A Main Stm Leg Low Pt Drain.....	Close

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.13 EBFAS Act Sig Ch 1 Trip - C01 - A37

Initiating Device	Setpoint
EBFAS Bistable 1A	2/4 Cont Press Channels at 3.8 PSIG
	2/4 Przr Press Channels at 1620 PSIA

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1A	AM 508	4	F32A Control Rm Filter Fan and Dampers	Start
1A	AM 508	3	F25A Encl Bldg Filtration Fan	Start
1A	AM 508		2-HV-107 ES Room Air Supply Valve	Close
1A	AM 508		2-HV-116 ES Room Air Supply Valve	Close
1A	AM 508		2-EB-51 Ctmt H_2O Monitoring Sample Iso Valve	Open
1A	AM 508		2-EB-56 Steam Jet Air Injector Mov	Close
1A	AM 508		2-EB-60 Fuel Handling Area Vent to Plen	Close
1A	AM 508		2-EB-72 Ctmt Clean-up Damper	Close

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.14 EBFAS Act Signal Ch 2 Trip - CO1 - B37

Initiating Device	Setpoint
EBFAS Bistable 1B	2/4 Cont Press Channels at 3.8 PSIG
	2/4 Przr Press Channels at 1620 PSIA

ACTION

Auto

Test Group	Module #	Diesel Seq.	Equipment	Function
1B	AM 608	4	F32B Control Rm Filter Fan & Dampers	Start
1B	AM 608	3	F25B Encl Bldg Filtration Fan	Start
1B	AM 608		2-HV-106 ES Room Air Supply Valve	Close
1B	AM 608		2-HV-117 ES Room Air Supply Valve	Close
1B	AM 608		2-EB-40 Encl Bldg Plenus Isol Damp	Open
1B	AM 608		2-EB-41 Encl Bldg Vent Suct Isol Damp	Open
1B	AM 608		2-EB-55 Stm Jet Air Inject. Mov. to Plenum	Close

1B	AM 608	2-EB-61 Fuel Handling Area Vent.....Close
1B	AM 608	2-EB-73 Ctmt Clean-up Damper.....Close

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.15 AEAS Act Signal Ch 1 Trip - C01 - D37

Initiating Device — Setpoint

AEAS Bistable 1A — 2/4 Fuel Handling Area Rad Hi

ACTION

Auto

Test Group	Module #	Equipment	Function
1A	AM 513	Fuel Handling Sys Discharge Damp.....	Close
1A	AM 513	Fuel Handling Area Vent to Plenum.....	Open
1A	AM 513	Ctmt H_2O Monitoring Smpl Iso Valve.....	Close
1A	AM 513	Ctmt H_2O Monitoring Smpl Iso Valve.....	Open
1A	AM 513	F25A Encl Bldg Filtration Fan.....	Start
1A	AM 513	Steam Jet Air Injector Mov.....	Close
1A	AM 513	F20 Fuel Handling Area H&V Fan.....	Close
1A	AM 513	Ctmt Clean-up Damper.....	Close
1A	AM 513	F32A Control Rm Filter Fan and Damper.....	Start

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.16 AEAS Act Sig Ch 2 Trip - C01 - D37

Initiating Device — Setpoint

AEAS Bistable 1B — 2/4 Fuel Handling Area Rad Hi

ACTION

Auto

Test Group	Module #	Equipment	Function
1B	AM 613	Spent Fuel Isol Damper.....	Close
1B	AM 613	Fuel Handling Area Vent to Damp.....	Open

1B	AM 613	Encl Bldg Plenum Isol Damp.....Open
1B	AM 613	Encl Bldg Suct Isol Damp.....Open
1B	AM 613	F25B Encl Bldg Filtration Fan.....Start
1B	AM 613	Steam Jet Air Injection Mov.....Close
1B	AM 613	Fuel Handling Damper.....Close
1B	AM 613	Ctmt Clean-up Damper.....Close
1B	AM 613	F32B Control Room Filter Fan.....Start

Initial and Subsequent

Refer to Emergency Procedure 2506/2509.

8.17 Pressurizer Ch 1 Lo Lo Pressure SIAS Manually Blocked - C01 - B19
Pressurizer Ch 2 Lo Lo Pressure SIAS Manually Blocked - C01 - D19

Initiating Device	Setpoint	
SIAS Block Bistable 6N92(502)	3/4 Przr Press Channels	1750 PSIA
SIAS Block Bistable 6N92(602)	3/4 Przr Press Channels	1750 PSIA

ACTION

Auto

a) Inhibits SIAS Actuation from Low Pressurizer Pressure.

NOTE: Automatically removed of 2/4 Pressurizer Pressure Channels increase to 1730 ± 15 PSIA.

Initial

None

Subsequent

None

8.18 SG Ch 1 Lo Lo Pressure Manually Blocked - C01 - B25
SG Ch 2 Lo Lo Pressure Manually Blocked - C01 - B25

Initiating Device	Setpoint	
Stm Gen Block Bistable 6N92(501)	3/4 SG Press Channels	600 PSIA
Stm Gen Block Bistable 6N92(601)	3/4 SG Press Channels	600 PSIA

ACTION

Auto

a) Inhibits MSI Actuation.

NOTE: Automatically removed of 2/4 SG Pressure Channels increase to 580 ± 15 PSIA.

Initial

None

Subsequent

None

8.19 Sequence 1 Operating - C01 - A39

Sequence 2 Operating - C01 - B39

Initiating Device	Setpoint
6N93 - SEQ 501	SIAS (1 of 6) contacts open UV contact open
6N93 - SEQ 601	Remote breaker contacts open Remote reset

ACTION

Auto

a) Accident with Loss of Normal Power (LNP):
   i) Actuation modules are tripped in accordance with the type of accident.
   ii) Sequencer operates through complete cycle.

b) LNP without an Accident Condition:
   i) For Seq 501: only actuation modules for SIAS 1, SIAS 3, and SIAS 5 are tripped.
   ii) Sequencer operates through complete cycle.
   iii) For Seq 601: only actuation modules for SIAS 1, SIAS 3, SIAS 5, and SIAS 12 are tripped.
   iiii) Sequencer operates through complete cycle.

c) LNP without an accident, followed by a subsequent SIAS during initial sequencing:
   i) Same as (b) above until SIAS occurs.
   ii) SIAS causes sequencer to reset to TIME ZERO.
   iii) Sequence then repeats through its complete cycle picking up the additional SIAS modules to control the accident.

Initial and Subsequent

Refer to Emergency Procedure 2502, 2506.

8.20 ESAS Auto Test System Failure - C01 - A41

Initiating Device	Setpoint
6N91 - AT501	Auto Test Failure

ACTION

Auto

None

Initial and Subsequent

Immediately notify I&C Supervisor.

8.21 ESAS Component Under Test Failure - C01 - B41

Initiating Device	Setpoint
6N91 - AT501	Component Failed Auto Test

ACTION

Auto

None

Initial and Subsequent

a) Determine which parameter and channel has failed.
   i) Lamp on steady for failed point.
   ii) Lamp fails to light for failed point.

b) Immediately notify I&C Supervisor.

8.22 CTM Rad Act Signal Ch 1 Trip - C01 - C36

CTM Rad Act Signal Ch 2 Trip - C01 - D36

Initiating Device	Setpoint
AM 501, AM 601	1/4 Ctmt Rad CIAS - Hi Rad

ACTION

Auto

Purge valves close.

Initial and Subsequent

Refer to Emergency Procedure 2501.

8.23

Pressurizer Pressure Lo Block "A"	C01	A-18
Pressurizer Pressure Lo Block "B"	C01	B-18
Pressurizer Pressure Lo Block "C"	C01	C-18

Pressurizer Pressure Lo Block "D" C01 D-11

Initiating Device	Setpoint
Pressurizer Pressure Block Bistable BA107	1750 PSIA
Pressurizer Pressure Block Bistable BA207	1750 PSIA
Pressurizer Pressure Block Bistable BA307	1750 PSIA
Pressurizer Pressure Block Bistable BA407	1750 PSIA

ACTION

Auto

None

Initial

a) Manually block the respective channels using the pushbuttons on C01.

b) If on 3 out of 4 coincidences, the block permissive for either channel fails to annunciate, or manual blocking cannot be accomplished, maintain pressurizer pressure greater that 1635 PSIA and contact the I&C Supervisor immediately.

Subsequent

None

8.24 Pressurizer Pressure Ch 1 SIAS Manual Block Permitted C01 A-19
Pressurizer Pressure Ch 2 SIAS Manual Block Permitted C01 C-19

Initiating Device	Setpoint	
SIAS 3/4 Block Matrix 6N92 (502)	3/4	1750 PSIA
SIAS 3/4 Block Matrix 6N92 (602)	3/4	1750 PSIA

ACTION

Auto

None

Initial

a) See Section 8.23.

NOTE: 2 out of 4 pressurizer pressure detectors, increasing above the blocking setpoint, will automatically remove the manual block.

Subsequent

None

8.25 Pressurizer Pressure Lo Lo "A" C01 A-20
Pressurizer Pressure Lo Lo "B" C01 B-20
Pressurizer Pressure Lo Lo "C" C01 C-20
Pressurizer Pressure Lo Lo "D" C01 D-20

Initiating Device	Setpoint
Pressurizer Pressure Bistable BA106	1620 PSIA
Pressurizer Pressure Bistable BA206	1620 PSIA
Pressurizer Pressure Bistable BA306	1620 PSIA
Pressurizer Pressure Bistable BA406	1620 PSIA

ACTION

Auto

SIAS Not Blocked:

1. SIAS generated on 2/4 coincidence.

SIAS Manually Blocked: None

One Alarm Only: None

Initial

SIAS Generated:

1. Carry out actions set forth in Emergency Procedure 2506, Loss of Coolant.

SIAS Manually Blocked: None

One Alarm Only:

1. Monitor pressurizer pressure on C03. If alarm is not valid, place the keylock bypass for that sensor in inhibit.

Subsequent

One Alarm Only:

1. Notify I&C Supervisor to investigate and repair the sensor channel.

8.26 CTM Pressure Hi "A" C01 A-21
CTM Pressure Hi "B" C01 B-21
CTM Pressure Hi "C" C01 C-21
CTM Pressure Hi "D" C01 D-21

Initiating Device	Setpoint
CTM Press SIAS/CIAS Bistable BA101	3.8 PSIG
CTM Press SIAS/CIAS Bistable BA201	3.8 PSIG
CTM Press SIAS/CIAS Bistable BA301	3.8 PSIG
CTM Press SIAS/CIAS Bistable BA401	3.8 PSIG

ACTION

Auto

2/4 Coincidence:

1. SIAS/CIAS generated.

One Alarm Only: None

Initial

2/4 Coincidence:

1. Carry out actions set forth in Emergency Procedure 2506, Loss of Coolant.

One Alarm Only:

1. Monitor containment pressure on C01. If alarm is not valid, place the keylock bypass for that sensor in inhibit.

Subsequent

One Alarm Only:

1. Notify I&C Supervisor to investigate and repair the sensor channel.

8.27

CTM Pressure Hi Hi "A"	C01	A-22
CTM Pressure Hi Hi "B"	C01	B-22
CTM Pressure Hi Hi "C"	C01	C-22
CTM Pressure Hi Hi "D"	C01	D-22

Initiating Device	Setpoint
CTM Press CSAS Bistable BA102	25.8 PSIG
CTM Press CSAS Bistable BA202	25.8 PSIG
CTM Press CSAS Bistable BA302	25.8 PSIG
CTM Press CSAS Bistable BA402	25.8 PSIG

ACTION

Auto

2/4 Coincidence:

1. CSAS generated.

One Alarm Only: None

Initial

2/4 Coincidence:

1. Carry out actions set forth in Emergency Procedure 2506, Loss of Coolant.

One Alarm Only:

1. Monitor containment pressure on CO1. If alarm is not valid, place the keylock bypass for that sensor in inhibit.

Subsequent

One Alarm Only:

1. Notify I&C Supervisor to investigate and repair the sensor channel.

8.28	Pressurizer Lo Lo Press SIAS 2/3 Logic	CO1	A-31
	Containment Hi Press SIAS/CIAS 2/3 Logic	CO1	B-31
	Containment Hi Hi Press CSAS 2/3 Logic	CO1	C-31
	SG 1 Lo Lo Press MSI 2/3 Logic	CO1	A-32
	RWST Lo Lo Level SRAS 2/3 Logic	CO1	B-32
	Radiation Hi AEAS 2/3 Logic	CO1	C-32
	ESAS UV Ch 1 2/3 Logic	CO1	A-33
	ESAS UV Ch 2 2/3 Logic	CO1	B-33

Initiating Device	Setpoint
Any of the four actuation signal key-lock bypasses in the INHIBIT position.	NA

ACTION

Auto

a) Accident signal actuation shifts to 2 out of 3 logic.

Initial and Subsequent

a) Ensure steps are taken to correct any sensor abnormality and return the accident signal actuation to 2 out of 4 logic.

8.29 ESAS Panel Rear Access Door Open C01 C-41

Initiating Device	Setpoint
Any of 8 microswitches on ESAS panels rear doors	NA

ACTION

Auto

None

Initial

a) Determine cause for opening any of the ESAS panels' rear doors.

Subsequent

a) Close all doors and clear alarm when possible.

8.30 ESAS UV 1 A Trip Bus 24C C01 A-43
ESAS UV 1 B Trip Bus 24C C01 B-43
ESAS UV 1 C Trip Bus 24C C01 C-43
ESAS UV 1 D Trip Bus 24C C01 D-43

Initiating Device	Setpoint
UV 1 Bistable BA112	85.5 VAC
UV 1 Bistable BA212	85.5 VAC
UV 1 Bistable BA312	85.5 VAC
UV 1 Bistable BA412	85.5 VAC

ACTION

Auto

One Alarm Only: None

2/4 Coincidence:

1. Load shed 24C and start DG H7A.

Initial

One Alarm Only:

1. Monitor parameters on C08. If alarm is not valid, place the keylock bypass switch for that sensor in inhibit.

2/4 Coincidence:

1. Refer to Emergency Procedure 2503 (LNP).

Subsequent

One Alarm Only:

1. Notify I&C Supervisor to investigate and repair the sensor channel.

8.31 ESAS UV 2A Trip Bus 24D C01 A-44
ESAS UV 2B Trip Bus 24D C01 B-44
ESAS UV 2C Trip Bus 24D C01 C-44
ESAS UV 2D Trip Bus 24D C01 D-44

Initiating Device	Setpoint
UV 2 Bistable BA113	85.5 VAC
UV 2 Bistable BA213	85.5 VAC
UV 2 Bistable BA313	85.5 VAC
UV 2 Bistable BA413	85.5 VAC

ACTION

Auto

One Alarm Only: None

2/4 Coincidence:

1. Load shed 24D and start DG H7B.

Initial

One Alarm Only:

1. Monitor parameters on C08. If alarm is not valid, place the keylock bypass switch for that sensor in inhibit.

2/4 Coincidence:

1. Refer to Emergency Procedure 2503 (LNP).

Subsequent

One Alarm Only:

1. Notify I&C Supervisor to investigate and repair the sensor channel.

SJB:jlc