

NUCLEAR ORGANIZATION
UNITS 2 AND 3
EFFECTIVE DATE APR 25 1996

ABNORMAL OPERATING INSTRUCTION S023-13-17
REVISION 2
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RECOVERY FROM INADVERTENT SAFETY INJECTION, CONTAINMENT ISOLATION
OR CONTAINMENT SPRAY

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QA PROGRAM AFFECTING

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RECOVERY FROM INADVERTENT SAFETY INJECTION, CONTAINMENT ISOLATION
OR CONTAINMENT SPRAY

1.0 SYMPTOMS

- 1.1 SIAS Actuation Train A (B)
- 1.2 CIAS Actuation Train A (B)
- 1.3 CSAS Actuation Train A (B)
- 1.4 HPSI, LPSI and Containment Spray Pumps running.
- 1.5 Safety Injection and Emergency Boration Valves aligned for injection to the RCS.
- 1.6 BAMU Pumps auto start.
- 1.7 Emergency HVAC and Emergency Chilled Water Systems auto start.
- 1.8 CCW Non-Critical Loop Isolation Valves close.
- 1.9 1E 4kv Bus Tie Breaker controls automatically transfer to manual.

2.0 IMMEDIATE OPERATOR ACTION(S)

PERF. BY
[1] INITIALS

- 2.1 None

3.0 SUBSEQUENT ACTIONS

3.1 With a CIAS actuation, proceed as follows:

- 3.1.1 IF operating, THEN trip the Reactor and Turbine and initiate S023-12-1. _____
- 3.1.2 After CEAs have been inserted for greater than 5 seconds as indicated by CEA bottom lights, then Stop all RCPs. _____
- 3.1.3 Recover from loss of CCW to Containment by initiating S023-13-7. _____
- 3.1.4 If the Unit was Operating, then terminate use of this procedure and GO TO S023-12-1. _____
- 3.1.5 If the Unit was not operating, then GO TO Section 3.9 for spurious CIAS evaluation. _____

- [1] The INITIAL column is an operator aid and is intended to be used as follows: Initial each completed action. Do not write N/A. Leave blank items that are not applicable. Proceed through the instruction performing all applicable steps, frequently rechecking those steps passed over to ensure action is taken when applicable.

3.0 SUBSEQUENT ACTIONS (Continued)

PERF. BY
[1] INITIALS

3.2 With a SIAS actuation, proceed as follows:

- 3.2.1 Verify Pressurizer Pressure - greater than the
SIAS Setpoint (\geq 1740 psia). _____
- 3.2.2 Verify Containment Pressure - less than 3.4 psig. _____
- 3.2.3 Verify Core Exit Saturation Margin - greater
than 20°F: _____
QSPDS page 611
CFMS page 313
- 3.2.4 Verify Pressurizer Level greater than or equal
to 27%. _____

3.3 If the criteria of Step 3.2 are NOT SATISFIED, then Trip
the Reactor and Turbine and GO TO S023-12-1.
Terminate use of this procedure. _____

3.4 If The criteria of Step 3.2 ARE SATISFIED, then perform
the following:

- 3.4.1 Initiate S023-3-2.22, attachment for SIAS/CCAS
Actuation Verification. _____
- 3.4.2 GO TO Section 3.6 for recovery from an
inadvertent SIAS. _____
- 3.4.3 Notify opposite unit SRO that S023-3-3.23,
Attachment for A. C. Sources Verification, must
be completed within one hour, due to the 1E 4kv
Bus Tie Breaker Controls being in MANUAL. _____

3.5 With a CSAS actuation, proceed as follows:

- 3.5.1 Verify Containment Pressure - less than 14.0 psig. _____
- 3.5.2 If Containment Pressure is greater than 14.0 psig,
then ENSURE the Reactor and Turbine are tripped
and GO TO S023-12-1. Terminate use of
this procedure. _____
- 3.5.3 If Containment Pressure is less than 14.0 psig,
then perform the following:
- .1 OVERRIDE and STOP running Containment Spray Pumps. _____
- .2 CLOSE the Containment Spray Header Isolations: _____
2(3)HV-9367 MP-012
2(3)HV-9368 MP-013
- .3 GO TO Section 3.8 for recovery from an
inadvertent CSAS. _____

3.0 SUBSEQUENT ACTIONS (Continued)

PERF. BY
[1] INITIALS

3.6 Recover from inadvertent SIAS, as follows:

NOTE: Sections 3.6 and 3.7 may be performed concurrently.

- 3.6.1 Reduce Turbine Load as necessary to maintain Turbine Power matched with Reactor Power.

CAUTION The following step places the Unit in a Tech. Spec. 3.0.3 [TSIP LCO 3.0.3] action by rendering all Charging Pumps inoperable. SIAS shall be Reset within one hour; otherwise Tech. Spec. 3.0.3 [TSIP LCO 3.0.3] shall be complied with. (This is an approved entry into Tech. Spec. 3.0.3 [TSIP LCO 3.0.3])

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- 3.6.2 After ensuring CVCS Letdown is isolated, then Override and Stop all Charging Pumps. _____
- 3.6.3 Override and Stop BAMU Pumps P-174 and P-175. _____
- 3.6.4 Override and Open HV-5388, Instrument Air to Containment Isolation Valve. _____
- 3.6.5 Override and Open RCP Bleed-off to VCT Isolation Valves: _____
HV-9217 _____
HV-9218 _____
- 3.6.6 Stop unloaded Diesel Generators. _____
- 3.6.7 After verifying SIAS/CCAS Actuation (initiated in Step 3.4.1), then perform S023-3-2.22, attachment for SIAS/CCAS and CIAS Reset. _____
- 3.6.8 Open LV-0227B, VCT T-077 Outlet Valve. _____
- 3.6.9 Ensure Closed LV-0227C, RWT T-006 to Charging Pumps Gravity Feed Valve. _____
- 3.6.10 Close BA Tank to Charging Pump Gravity Feed Valves: _____
HV-9235 _____
HV-9240 _____

3.0 SUBSEQUENT ACTIONS (Continued)

PERF. BY
[1] INITIALS

3.6.11 Close HV-9247, Emergency Boration Block Valve. _____

NOTE: Charging Pump suction lines may have
elevated Boric Acid Concentrations.

3.6.12 Restore Charging and Letdown per S023-3-2.1 _____

3.7 Restore the following loads as required to support plant
operation.

NOTE: With SIAS actuation present the following loads
are restored by placing the Control Room
handswitch to Override.

3.7.1 2A0416 NON 1E UPS Normal
(3A0412) Feeder (HS-1738-1) _____

3.7.2 B0402 Pressurizer Backup
Heater (HS-0100F1) _____

3.7.3 B0602 Pressurizer Backup
Heater (HS-0100I2) _____

NOTE: The following loads are restored by placing the
Override/Off switch at the breaker to Override.

3.7.4 BS11 Fire Detection and Actuation Systems
(BS12) UHF Radio System 2(3)L-414 _____

3.7.5 BZ11 Essential Lighting
System 2/3LP-35A(B) _____

3.7.6 BY19 Essential Lighting System
2/3LP-35B(A) Alternate Supply _____

3.7.7 BQ11 Dose Assessment Computer
Air Conditioner _____

3.7.8 BY33 2(3)Q071 (CFMS, EPPM L-411) ALT
AC Source and if aligned Panel 2/3Q072
(DAC, TSC Computer) _____

3.0 SUBSEQUENT ACTIONS (Continued)

PERF. BY
[1] INITIALS

3.8 Recover from inadvertent CSAS, as follows:

3.8.1 Verify proper actuation per S023-3-2.22,
attachment for CSAS Actuation Verification. _____

3.8.2 IF Containment pressure is less than 3.4 psig
THEN perform S023-3-2.22, attachment for CSAS
Reset and Restoration. _____

.1 Initiate Attachment 1 for Inspection of affected
equipment. _____

3.9 Evaluate Spurious CIAS, as follows:

3.9.1 Verify proper actuation per S023-3-2.22,
attachment for CIAS Actuation Verification. _____

3.9.2 IF Containment pressure is less than 3.4 psig
THEN perform S023-3-2.22, attachment for CIAS
Restoration. _____

NOTE: Step 3.10 and 3.11 may be performed concurrently.

3.10 IF SIAS has been Reset, THEN realign SIAS actuated
equipment as applicable for required plant conditions
per S023-3-2.22, attachment for SIAS/CCAS Restoration. _____

3.11 If Shutdown Cooling System is in operation, then restore
SDCS per S023-3-2.6. _____

3.12 The Shift Superintendent shall notify the Plant
Superintendent (or designee) and Shift Technical Advisor,
and discuss the situation to determine the requirement
for event classification per S0123-VIII-1 and reporting
requirements of S0123-0-14. _____

3.13 Investigate the cause of inadvertent safety injection and
initiate maintenance action, if necessary. _____

3.13.1 Review logs and WARs for approved maintenance
activity which may have potential for ESFAS
actuation. _____

3.14 Log inadvertent Safety Injection/Containment Isolation/
Containment Spray per S0123-0-42. _____

3.14.1 TERMINATION _____
DATE TIME UNIT _____

4.0 REFERENCES

4.1 NRC Commitment

- 4.1.1 Technical Specifications (TSIP when implemented) |R

4.2 Procedures

- 4.2.1 S0123-VIII-1, "Recognition and Classification of Emergencies"

4.3 Operating Instructions

- 4.3.1 S0123-0-14, "Notification and Reporting of Significant Events"
- 4.3.2 S0123-0-25, "Trip/Transient Review"
- 4.3.3 S0123-0-42, "Cumulative Equipment Hours, Inoperability, and Design Cycles"
- 4.3.4 S023-1-5.1, "Auxiliary Building Emergency HVAC System Operation"
- 4.3.5 S023-2-8, "Saltwater Cooling System Operation"
- 4.3.6 S023-2-17, "Component Cooling Water System Operation"
- 4.3.7 S023-3-2.1., "CVCS Charging and Letdown"
- 4.3.8 S023-3-2.6, "Shutdown Cooling System Operation"
- 4.3.9 S023-3-2.7, "Safety Injection System Operation"
- 4.3.10 S023-3-2.22, "Engineered Safety Features Actuation System Operation"
- 4.3.11 S023-3-3.23, "Diesel Generator Monthly Test"
- 4.3.12 S023-3-3.29, "Determination of Reactor Shutdown Margin"
- 4.3.13 S023-5-1.5, "Plant Shutdown Hot Standby to Cold Shutdown"
- 4.3.14 S023-12-1, "Standard Post Trip Actions"
- 4.3.15 S023-13-7, "Loss of Component Cooling/Saltwater Cooling Water"
- 4.3.16 S023-15-57A(B), "Annunciator Panel 57A(B), Train A(B) Safety Injection"

5.0 RECORDS

- 5.1 Upon termination of this procedure and applicable attachments, file per S0123-0-25.
- 5.2 Make appropriate C.O. log entries stating time, equipment actuated, and duration of incident.

CONTAINMENT SPRAY AFFECTED EQUIPMENT

OBJECTIVE

To ascertain the impact on plant systems/components in the event of an inadvertent containment spray actuation.

1.0 PREREQUISITES

PERF. BY
INITIALS

- 1.1 Verify this document is current by checking a controlled copy or by using the method described in S0123-VI-0.9.

2.0 PROCEDURE

- 2.1 Request Station Technical to estimate the amount of water that entered Containment and account for removal of the water.

Person Notified _____
Name Time

- 2.2 Request Station Technical to perform an inspection. The inspection should include, but is not limited to, the following equipment and areas:

Person Notified _____
Name Time

- 2.2.1 ESF piping and mechanical equipment outside of containment.

- 2.2.2 All accessible components inside containment which should include the following:

- Valves
- Safety Injection Tanks
- Sections of uninsulated piping
- Electrical terminators, Junction Boxes, etc. which could result in premature equipment failure or degradation
- Normal and Emergency Containment Coolers
- Snubbers
- Transmitters, accessible portions
- Trisodium Phosphate
- Area Rad Monitors

- .1 Inspect RCP Lube Oil Collection Drain Tanks and drain if necessary.

2.0 PROCEDURE (Continued)

2.2.2.2 If Unit is brought off-line, then inspect all accessible components inside the bioshield and Reactor Cavity which should include the following:

- Reactor Coolant Pumps; general inspection, Oil Collection Subsystem
- Hydraulic Snubbers
- Mechanical Snubbers
- Reactor Vessel Cavity Area
- Reactor Head Area
- General Area inside bioshield
- Junction Boxes
- Valves and piping
- CEDM cables and connectors

2.0 PROCEDURE (Continued)

COMMENTS: _____

PERF. BY
INITIALS

Attachment completed _____ / _____ and log entry made.
DATE TIME

C.O.

REVIEWED BY: _____
SRO Ops. Supv.

DATE: _____

FILE DISPOSITION: File per S0123-0-25.

Attachment C - Emergency Operating Procedure SO23-12-1 "Standard Post
Trip Actions"