

**WP 04-HO4002**

Revision 2

**SALT HOIST ALARM  
RESPONSE**

Technical Procedure

EFFECTIVE DATE: 03/29/00

Leroy E. Bostick

PRINTED NAME

**APPROVED FOR USE**

**TABLE OF CONTENTS**

1.0 ALARM/INITIATING DEVICE ..... 3  
2.0 AUTOMATIC ACTIONS ..... 6  
3.0 IMMEDIATE ACTIONS ..... 7  
4.0 SUBSEQUENT ACTIONS ..... 7  
5.0 POSSIBLE CAUSES ..... 8  
  
Attachment 1 - Alarm Window Matrix ..... 9

## 1.0 ALARM/INITIATING DEVICE

---

### NOTE

Initiation/receipt of an alarm listed in steps 1.1 through 1.3 requires the Hoist Operator to notify the Hoisting Manager under the following conditions:

- An inadvertent trip of the hoist system. (If the trip resulted from an authorized maintenance check or an operations check, notification is **NOT** necessary).
  - Any abnormality affecting safety or reliability of the hoist system
  - Any emergency or unusual condition that requires interdepartmental interfaces
- 

### 1.1 Emergency Stop Alarms:

- Window A-3, (Drop 3), LILLY OVERSPEED Initiating Device - LOS
- Window A-4, (Drop 4), SLACK ROPE Initiating Device - SRP
- Window A-5, (Drop 5), BRAKE PRESSURE LOW Initiating Device - BSP
- Window A-6, (Drop 6), EMERGENCY STOP P.B. Initiating Device - ES
- Window A-7, (Drop 7), LOWER OVERTRAVEL Initiating Device - LOT
- Window A-8, (Drop 8), HOIST OVERTRAVEL Initiating Device - HOT
- Window B-1, (Drop 11), 13.8 KV BREAKER OPEN Initiating Device - ACBKR
- Window B-4, (Drop 14), CONTROL LOCKED OFF Initiating Device - ALLSW
- Window B-6, (Drop 16), SHAFT/LOAD GATE OPEN Initiating Device - GIRX
- Window C-1, (Drop 21), FAILURE TO DECEL Initiating Device - FDEC
- Window C-5, (Drop 25), SYNC. MOTOR STARTER Initiating Device - SMS
- Window C-7, (Drop 27), AC BRIDGE U/V Initiating Device - ACBPUV

- Window D-1, (Drop 31), MOTOR OVER VOLTAGE Initiating Device - Circuit Card NVIA (DVIA) 1D, Sht. 4V
- Window D-2, (Drop 32), MOTOR OVERSPEED Initiating Device - Circuit Card NSWA (DSWA) 2G, Sht. 4J
- Window D-5, (Drop 35), REGULATOR MALFUNCTION Initiating Device - Circuit Card NCMA (DGPA) 2F, Sht. 4F
- Window D-6, (Drop 36), MOTOR FIELD LOSS Initiating Device - Motor Field Current Isolator, Sht. 6A
- Window D-7, (Drop 37), FIELD CUR ISO LOSS Initiating Device - Circuit Card NSWA (DSWA) 1H, Sht. 4W
- Window D-8, (Drop 38), ELECTRONIC PWR SUP LOSS Initiating Device - Power Supply DS3820PS1B, CB1, Sht. 4X
- Window D-9, (Drop 39), ARMATURE CUR. ISO LOSS Initiating Device - Armature Current Isolator, Sht. 6C
- Window D-10, (Drop 40), DYNAMIC BRAKE LOSS Initiating Device - DBF
- Window E-1, (Drop 41), CONV A FAULT Initiating Device - Circuit Card NSWA 2G, Sht. 4U
- Window E-2, (Drop 42), CONV B FAULT Initiating Device - Circuit Card NSWA 2G, Sht. 4U
- Window E-5, (Drop 45), HOIST OVER CURRENT
- Initiating Device - Circuit Card NCMA (DGPA) 2F, Sht. 4N
- Window E-8, (Drop 48), 250 V CPE U/V
- Initiating Device - Circuit Card NSWA (DSWA) 1H, Sht. 4W

## 1.2 Controlled Stop Alarms:

- Window A-1, (Drop 1), TIMED OVERCURRENT Initiating Device - TOC
- Window A-2, (Drop 2), EMERGENCY BRAKING NOT AVA. Initiating Devices - EBCA, or PLR and SRX

- Window A-9, (Drop 9), EXCESSIVE BRAKE OVERTRAVEL Initiating Device - RBET or LBET
- Window A-10, (Drop 10), BRAKE FAIL TO SET Initiating Device - BFS
- Window B-2, (Drop 12), FAILURE TO EXIT DUMP Initiating Device - FED
- Window B-3, (Drop 13), BRAKE FAIL TO RELEASE Initiating Device - BFR
- Window B-7, (Drop 17), LILLY GEAR LOSS Initiating Device - GLSX and LGL
- Window B-8, (Drop 18), D.D.P. PERMISSIVE Initiating Device - POS, and HWPS, and PSPC
- Window B-9, (Drop 19), D.D.P. MALFUNCTION Initiating Device - AR and PMT
- Window B-10, (Drop 20), UPS/DDC CHGR MALF/BYPASS Initiating Device - UPSMB relay or Control Power Switch
- Window D-3, (Drop 33), ARMATURE GROUND Initiating Device - Circuit Card NVIA (DVIA) 1D, Sht. 4V
- Window D-4, (Drop 34), MOTOR FIELD GROUND Initiating Device - Circuit Card NVIA (DVIA) 2D, Sht. 4W
- Window E-3, (Drop 43), CONV A ALARM Initiating Device - Circuit Card NSWA 2G, Sht. 4U
- Window E-4, (Drop 44), CONV B ALARM Initiating Device - Circuit Card NSWA 2C, Sht. 4U
- Window E-6, (Drop 46), MOTOR FIELD OVER CURRENT Initiating Device - Circuit Card NSWA (DSWA) 1H, Sht. 4W

### 1.3 Protective Stop Alarms:

- Window A-4, (Drop 4), COMM LOSS Initiating Device - Radio Communication Loss Relay
- Window B-5, (Drop 15), BRAKE WEAR Initiating Device - BW
- Window C-2, (Drop 22), SYNC MOTOR OVERTEMP Initiating Device - SMOT

- Window C-3, (Drop 23), HOIST MOTOR OVERTEMP Initiating Device - MOT
- Window C-4, (Drop 24), GENERATOR OVERTEMP Initiating Device - GOT
- Window C-6, (Drop 26), INTERPHASE REACTOR O/T Initiating Device - IROT
- Window C-8, (Drop 28), HARMONIC FILTER FUSE LOSS Initiating Device - FFL
- Window C-9, (Drop 29), LUBE OIL PRESSURE Initiating Device - LOP
- Window E-7, (Drop 47), BRAKE TEST TIME Initiating Device - Circuit Card NSWA (DSWA) 1G, Sht. 4L
- Window E-9, (Drop 49), HARMONIC FILTER OPEN Initiating Device - HF

## 2.0 AUTOMATIC ACTIONS

### 2.1 Emergency Stop:

- Brakes set **IMMEDIATELY** stopping hoist
- DC loop opens

### 2.2 Controlled Stop:

- Hoist slows at normal deceleration rate
- Brakes set after hoists slows

### 2.3 Protective Stop:

- Normal stop upon completion of a trip in SEMI-Automatic Mode
- Brakes set
- DC loop opens
- Hoist stops

### 3.0 IMMEDIATE ACTIONS

**IF** personnel were embarked on conveyance,  
**THEN**, verify their physical condition using cage phone.

### 4.0 SUBSEQUENT ACTIONS

4.1 Silence alarm.

4.2 Notify Hoisting Manager.

4.3 The following steps may be performed **AFTER** approval has been granted :

4.3.1 Place Hoist Mode Selector in MANUAL control.

4.3.2 Speed control in NEUTRAL.

4.3.3 Ensure Armature Loop Voltage is approximately Zero (0) Volts (-25 to +25 Volts).

4.3.4 Press Safety Reset Button to reset power.

4.4 **IF** Emergency Stop was caused by a Slack Rope condition,  
**THEN** perform the following:

4.4.1 Hold the Slack Rope Bypass Switch in Bypass position and perform Steps 4.3.1. Through 4.3.4

4.4.2 Hoist slowly to remedy Slack Rope conditions.

4.4.3 **WHEN** the Slack Rope condition is remedied,  
**IF** Slack Rope condition was caused by Radio controlled Slack Rope Switch.

**THEN** reset hoist using the Reset toggle switch on Radio Panel 38P-RCP/2 to restore normal operation.

4.5 **IF** controlled stop was caused by UPS/DDC CHGR MALF/BYPASS alarm,  
**THEN** perform the following:

4.5.1 Move the UPS/DDC CHARGER BYPASS keyed switch on 38P-MOC03/1 from OFF to BYPASS position.

4.5.2 Check the UPS/DDC CHARGER BYPASS R1L illuminates and flashes.

4.5.3 Perform Steps 4.3.1 through 4.3.4

**CAUTION**

To avoid equipment damage, the PERSONNEL mode and the REDUCED SPEED profile must be used to limit hoist speed to approximately 300 fpm.

4.5.4 Return the conveyance to the collar using the PERSONNEL mode and REDUCED SPEED profile.

4.5.5 **WHEN** cause of alarm is determined and corrected,  
**THEN** move UPS/DDC CHARGER BYPASS keyed switch to the OFF position.

4.6 **IF** Emergency stop was caused by SHAFT/LOAD GATE OPEN,  
**THEN** perform the following:

4.6.1 Contact Shaft Tenders to determine if SHAFT GATE or LOAD GATE is open.

4.6.2 Direct Shaft Tender to CLOSE the open gate.

4.6.3 Perform Steps 4.3.1 through 4.3.4.

4.7 **IF** performance of steps 4.3.1 through 4.3.4 **DOES NOT** result in system restoration,  
**THEN** notify Hoisting Manager.

4.8 **GO TO** WP 04-HO1002, Salt Handling Shaft Hoist Operation, for return to normal operation.

## 5.0 POSSIBLE CAUSES

- Loss of power
- Faulty relay
- Setpoint out of adjustment
- Component failure
- Manual activation of E-Stop

## Attachment 1 - Alarm Window Matrix

**ALARM WINDOW LOCATION MATRIX**

A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
B1	B2	B3	B4	B5	B6	B7	B8	B9	B10
C1	C2	C3	C4	C5	C6	C7	C8	C9	C10 (*)
D1	D2	D3	D4	D5	D6	D7	D8	D9	D10
E1	E2	E3	E4	E5	E6	E7	E8	E9	E10 (*)

NOTE: Windows marked with an asterisk ( \* ) are those drops that remain unused.