

Critical Item: Release Mechanism (3 each)

Find Number: None

Criticality Category: 1S

SAA No: C95Y01-003 System/Area: Ansul Dry Chemical/MLP-3
NASA PMN/
Part No: None Name: K61-0741
MFG Drawing/ 79K30002
Part No: Ansul 17728 Sheet No: 211-213: 271-273

Function: Provides CO₂ pressure to open GN₂ Cylinder Release Valve

Critical Failure Mode: Fails to release pneumatic pressure. FMO95Y01-003.004

Failure Cause: Empty CO₂ cartridge or solenoid malfunction.

Failure Effect: Unable to release Dry Chemical in automatic mode. Possible loss of life/loss of a Space Shuttle Vehicle due to damage to Hydraulic Equipment resulting from an uncontrolled fire.

Acceptance Rationale

Design:

- o This system conforms to the requirements of National Fire Protection Association Code (NFPA) 17.
- o Release Mechanism is listed by Underwriters Laboratories (UL).

Test:

- o File VI OMRSD requires an annual test:
- Close hand valve to isolate dry chemical tank from system. Activate manual pull station to perform end-to-end test and verify damper closes and fan shuts down..

Inspection:

- o Verify functional operation annually and at component replacement.
- o PMI Requires: Visually inspect for physical damage and deterioration quarterly.

Operational Use:

- o None, response by Fire Services Personnel when MLP at Launch Pad:
 1. During normal Pad operation (routine operation/maintenance personnel present). Fire Services Personnel will respond within 2-9 minutes after notification from LCC Room 1P10.
 2. During hazardous operations at the Pad (access limited to essential personnel only), response time after notification of a fire would be 2-9 minutes. Fire Services Personnel will be on-site or in near proximity during all hazardous operations.
 3. During post-launch operations (no operation/maintenance personnel present), response time after notification of a fire is expected to typically be within 20 minutes.

Failure History:

- o No GIDEP Alerts were reported.
- o No KSC PRACA history of Failure in the Critical Failure Mode.
- o No trouble tickets were reported.