

Critical Item: Heat Actuated Detector (5 each)

Find Number: None

Criticality Category: 1S

SAA No: 09SY01-003

System/Area: Ansul Dry Chemical/MLP-3

NASA

Part No: None

PMN/

Name: K61-0741

MFG

Part No: Simplex 4255-1

Drawing/ 79K07050

Sheet No: 200-202

Function: Senses fixed temperature which causes a fusible solder link to melt, a spring releases and closes contacts to release dry chemical.

Critical Failure Mode: Fails Open. FM09SY01-003.009

Failure Cause: Broken spring.

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 Built and tested to Underwriters Laboratories (UL) & Factory Mutual (FM) standards.
  - Maximum Area Protected 225 Ft<sup>2</sup>
  - Principle of Operation Fixed Temperature
  - Fixed Temperature Rating 135<sup>o</sup>F

##### Test:

- o PMI Requires:
  - Quarterly verify electrical components by energizing initiating and signaling circuits.

Inspection:

- o Visually inspect integrity of solder link annually and at component replacement
- o Replace Heat Actuated Detector every 5 years.

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.