

Critical Item: Check Valve in Supply Manifold
(11 each MLP, 33 total)

Find Number: 10

Criticality Category: 1S

SAA No: O9SY01-002

System/Area: Halon 1301 Fire
Protection System/MLP

NASA
Part No: None

PNM/
Nsgg: K61-0739-01
K61-0740-01
K61-0741-01

MFG
Part No: Walter Kidde 877690

Drawing/
Sheet No: 79K09475
5

Function: Prevent backflow of halon from manifold to cylinder valve assembly.

Critical Failure Mode: Fails closed, FW09SY01-002.002

Failure Cause: Damaged/corroded check shaft.

Failure Effect: Unable to release halon from affected cylinder. Reduction of halon concentration which could allow a fire to spread. Possible loss of life and damage/loss of a Space Shuttle Vehicle.

Acceptance Rationale

Design:

- o Component Specification:

	<u>RATED</u>	<u>ACTUAL</u>
Pressure	720 psi	360 psi
Temperature	200° F max.	Ambient
- o Materials:
 - Valve Body: Cadmium Plated Steel
 - Check : Stainless Steel
- o Valves are listed by Underwriters Laboratories (UL) and Canadian Standards Association (CSA) certified.

Test:

- o Film VI OMRSD requires an annual test:
- Verify that check valve opens when pushed on.

Inspection:

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

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 1F1D.
 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 NRC FRACA history of failure in the critical failure mode.
- o No QIDEP ALERTs were reported.
- o No trouble tickets were reported.