

NOV 3 1995

Critical Item: Water Sphere Butterfly Valve, Pneumatically Actuated
Total Quantity: 4
Find Number: V-22E, V-22W (M7-0961)
 V-22E, V-22W (M7-1212)
Criticality Category: 1S

SAA No:	01FS030-002	System/Area:	Firex Deluge System/ Hypergol Maintenance Facility
NASA Part No:	None	PMW Name:	K61-0841/Firex Deluge M7-0861 K61-0847/Firex Deluge M7-1212
Mfg/ Part No:	Nelec-Jamesbury/ 815W-11-3600-MT	Drawing/ Sheet No:	79K33901/ 2, 4

Function: Provides water flow to the respective scrubber pad (MMH and N2O4) spray nozzles when opened. This valve is the only path of water coverage to the scrubber pad.

Critical Failure Mode/Failure Mode No: Fail Closed/01FS030-002.025

Failure Cause: Corrosion, mechanical failure

Failure Effect: Loss of firex deluge coverage to the scrubber pad resulting in a possible loss of life during a hazardous condition. **Detection method:** indication on the console in bldg. M7-1051. **Time to effect:** Immediate.

ACCEPTANCE RATIONALE

Design:

- Designed in accordance with American National Standards Institute (ANSI) Class 150 specifications
- Body, Disc & Shaft Material: 316 Stainless Steel
- Seal Material: TFE (Teflon)
- Seat Material: Filled TFE
- Rated Pressure: 285 psi @ Temperature Range -20°F to 100°F
Actual Pressure 150 psi (static), 175 - 200 psi (flow) @ Ambient Temperature
- Micro-fog lubricator located in the pneumatic line reduces the likelihood of corrosion in the valve actuator.

Test:

- OMRS File VI requires a wet test water flow validation to demonstrate the proper operation of these fire valves annually (refer to OMI 12060).

Inspection:

- OMI 12060 requires a visual inspection of the valve exterior be performed during system validation.

Failure History:

- Current data on test failures, unexplained anomalies, and other failures experienced during ground processing activities can be found in the PRACA database. The PRACA database was researched and no failure data was found on this component in the critical failure mode.
- The GIDEP failure data interchange was researched and no failure data was found on this component in the critical failure mode.

Operational Use:

- **Correcting Action:**

There is no action which can be taken to mitigate the failure effect.

- **Timeframe:**

Since no correcting action is available, timeframe does not apply.