

**Critical Item:** Pneumatic Flow Control Valve, Adjustable w/ Parallel Bypass Check  
**Total Quantity:** 4  
**Find Number:** FCV-22E, FOV-22W (M7-0961)  
 FCV-22E, FCV-22W (M7-1212)  
**Criticality Category:** 15

<b>SAA No:</b>	01FS030-002	<b>System/Area:</b>	Firex Deluge System/ Hypergol Maintenance Facility
<b>NASA Part No:</b>	None	<b>PMN Name:</b>	K61-0841/Firex Deluge M7-0961 K61-0847/Firex Deluge M7-1212
<b>Mfg/ Part No:</b>	Detroit Fluid Products/ F25B	<b>Drawing/ Sheet No:</b>	79K33901/ 2, 4

**Function:** Provides capability to supply full pneumatic flow to the open side of the actuator to open the water valve quickly when required, and allow for a reduced venting of the open side of the actuator to provide a slower closing rate to prevent damage to the system.

**Critical Failure Mode/Failure Mode No:** Fail Closed (Check Valve)/01FS030-002.027

**Failure Cause:** Corrosion, mechanical failure

**Failure Effect:** Reduces pneumatic flow rate to pressurize the open side of the actuator on the water valve while opening. This will result in a below design opening rate for the water valve causing loss of a timely 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. M7-1061. **Time to effect:** Immediate.

#### ACCEPTANCE RATIONALE

##### Design:

- Rated pressure: 2000 psi; Actual pressure: 125 psi
- Operating temperature range: -40°F to 212°F
- Body material: SAE 72 Brass
- The valve is housed in a NEMA 4X waterproof cabinet enclosure, with a GN2 purge.
- 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 frac 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.

Attachment  
SD50234EM  
Sheet 14 of 15