Critical Item: Valve, Flow Control

NASA Part No: None

Mfg/Part No: Deltrol Fluid Prod. Div / F25SS

System: Facility Water System

Criticality Category: 1S

Total Quantity: 1

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
A159874 (V-281.5)	1	Pad-A	K60-0060	007.00	79K06011 / 4

Function:

Via the check valve, unrestricted air flow is applied to the actuator of water valve V-280 for opening, and the variable orifice provides a vent path for a controlled rate of closing.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
09SY03A-001.003 Check valve fail closed	Corrosion, contamination, or failure of internal piece part. Some air pressure would be received via the orifice side of the flow control valve. Valve V-280 may open, but at a reduced rate and may not open fast enough to provide timely fire suppression. Possible loss of life and/or vehicle during a hazardous condition.	V-280 position switch Immediate	1S

ACCEPTANCE RATIONALE

Design:

- Rated operating pressure 5000 psig.
- Burst pressure 20000 psig.
- Actual operating pressure 125 psig.

Test:

- OMI M2088 requires cycling of perimeter area water valves to verify proper operation.
- OMRSD, File VI requires verification of the operational function of the water valve in all modes of operation annually and at replacement. (Note: Water valve operational function verification ensures valve opens within design opening rate which also verifies check valve has not failed.)

Inspection:

- OMI M6045 requires the inspection of the firex valves for signs of corrosion and/or contamination.

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	Timeframe
There is no action which can be taken to mitigate the failure effect.	Since no correcting action is available, timeframe does not apply.