USA Ground Operations CIL Sheet

Critical Item: Motor Operated Flow Control Valve
Criticality Category: 2
NASA Part No: None
Total Quantity: 6
Mfg/Part No: Keystone Valve USA Inc. / 479-703-040-100-050
System: Fixed Environmental Control System

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
A145523	1	OPF -1	S70-1310	052.00	79K06044 / 2
A145523	1	OPF -2	S70-1310	052.00	79K06044 / 2
A145523	1	OPF -3	S70-1310	052.00	79K06044 / 2
A145547	1	OPF -1	S70-1310	052.00	79K06044 / 2
A145547	1	OPF -2	S70-1310	052.00	79K06044 / 2
A145547	1	OPF -3	S70-1310	052.00	79K06044 / 2

Function:

Controls flow rate to applicable Orbiter conditioned purge air duct (aft or forward).

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
09GS05-012.001 Fails open	Electrical or mechanical failure Overpressurization of Orbiter duct system.	None Immediate	2

ACCEPTANCE RATIONALE

Design:

- Designed to industry standards. UL listed.
- Limit switch cams allow for simple travel adjustment.
- Pressure rating is 150 psi which is well above the blowers capacity of 4 psi.

Test:

- Prior to ECS startup the PLC runs a pre-start cycling of all flow control valves to verify functionality. This pre-start is run at least once a month during preventative maintenance per OMI V6H09.
- OMRSD File VI requires the PLC to be rebooted and expected performance verified after cycling the PLC internal diagnostics once a month.

Inspection:

- None.

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 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.