USA Ground Operations CIL Sheet

SAA09SY13-001
Rev. C

Critical Item: Check valve
NASA Part No: None
Mfg/Part No: Circle Seal Controls / 249T-16BB
System: Facility Potable Water System

Criticality Category: 1S
Total Quantity: 1

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
A37551	1	Pad-A	K60-0619	427.01	79K16270 / 5

Function:

Prevents GN2/water from backflowing into the GN2 system, and maintains pressure on tank T-4 in the event GN2 supply is lost.

Failure Mode No. Failure Mode	Failure Cause / Failure Effect	Detection Method / Time to Effect	Crit Cat
09SY13-001.083	Structural failure or corrosion	Visual	1S
Fails closed	Loss of ability to keep tank T-4, and the system pressurized in the event there is a demand on the system. Possible loss of life during a hazardous condition.	Immediate	

ACCEPTANCE RATIONALE

Design:

- Operating pressure: 0-3000 psig
- Actual pressure: 165 +/- 5 psig
- Body: Stainless steel 303
- Spring: Stainless steel 302
- O-Ring: Buna N
- Proof pressure: 1.5 times operating pressure
- Burst pressure: 2.5 times operating pressure
- Operating temperature: -40 degF to 250 degF
- Cracking pressure: 2-4 psig
- Leakage from zero to max operating pressure: zero

Test:

- System premission validation (OMI M2043) requires verification of system pressurization, and operational check of all eyewashes and safety showers for proper pressure and operation.

- OMRSD File VI requires verification of proper operation semi-annually and at component replacement.

Inspection:

- OMI M6009 requires visual inspection of system components for evidence of housing leakage and structural integrity semiannually.

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.