Title
PEP-4 PRESSURE CERTIFICATION TEST PROCEDURE

Author
Brown, L.E.

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For Reference

Not to be taken from this room

DISCLAIMER

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ENGINEERING NOTE

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AUTHOR	DEPARTMENT	LOCATION	DATE
Larry E. Brown LEB	Mechanical Engineering Dept.	Berkeley	4 May 1981

PROGRAM — PROJECT — JOB
PEP-4

PRESSURE CONTAINMENT

TITLE
PEP-4 PRESSURE CERTIFICATION TEST PROCEDURE

Rev. A 6 May 1981

The pressure containment envelope consisting of the pole bases, feed through rings, cryostat, bore train and aluminum manifold piping is described in Engineering Note P40401 M5716. A

PRE-TEST PROCEDURE

Install dial gages at both ends of PEP-4 to measure deflections of the pole bases near the centers of the pole bases.

Area clear of anything that would interfere with testing or cause a secondary accident.

Install safety equipment (flashing lights, signs etc.) per SLAC safety requirements.

PEP-4/PEP-9 personnel notified. (G. Masek, B. Denton, F. Catania)

Test personnel notified. (C. Hoard, J. Mark, L.E. Brown)

Area cleared of personnel not required to perform and witness test.

Area secured per SLAC safety requirements.

PROCEDURE

At each "hold" point record time, dial gage readings and temperatures.

Open the valve between the TPC and the relief valves set at 150 x 1.1 = 165 psig. Close the valve between the pressure gage and atmosphers.

A. Open the throttle and purge valves at each end of PEP-4.

B. Open and close each pumpout monitor valve at the pumpout monitor panels to make certain that there is no residual pressure in the pumpout lines and that all monitor valves are closed. All monitor gauges should read zero psi.

C. Connect the gas pressure source through a pressure regulator, pressure gauge, and shut-off valve to the fitting on the two-inch port, purge port, at the center of the two-inch piping run on the west side of PEP-4.

During run up of the TPC pressure note the pressure on the gage.

Record pressure level and time at which the relief valve opens.

Open the valve between the gage and atmosphere. Record the tank pressure and time when the relief valve closes.

Reclose the valve between the gage and atmosphere.

Proceed with the pressure ramping.

Pressurize to 60 psig.
hold for 10 minutes.

Caution On all depressurizations, the maximum rate is determined by the internal equipment. This rate is 15 psi per hour.

Reduce pressure to 50 psig.
hold for 10 minutes while leak hunting (initial leak test).

Leak test all accessible seals in PEP-4 and in the piping with a Methane sensitive leak detector.

Depressurize, repair leaks, and recheck at 50 psig, if necessary.

Repeat initial leak hunt step as required.

If the pressure has not been cycled to zero then reduce pressure to zero psig and record pole base deflections, otherwise proceed.

Raise pressure to 125 psig.
hold for 10 minutes.

Reduce to 105 psig.
hold for at least 10 minutes while leak hunting.

Raise pressure progressively to 225 psi by steps of 20 psi, hold at each level for 5 minutes. Hold at 225 psi for 15 minutes. Reduce pressure to 165 psi and hold for at least on hour.

Perform a final leak test

1. Record any change in pressure.

2. Visually inspect all accessible portions of pressure system.

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Depressurize PEP-4 to zero psig through a vent line extending outside IR-2 to a safe discharge point.

Should the test run require more than one shift, reduce the pressure to no more than two thirds of the maximum achieved pressure and open the test area for normal operations until the next test period.

At the conclusion of the test, notify SLAC safety to remove barriers etc.

Write Certification Pressure Test Report.

/nyc
Distribution: L. Brown
P. Hernandez
C. Hoard
R. Kenney
R. Madaras
J. Mark
K. Mirk
R. Robrish
G. Schnurmacher

TECHNICAL INFORMATION DEPARTMENT
LAWRENCE BERKELEY LABORATORY
UNIVERSITY OF CALIFORNIA
BERKELEY, CALIFORNIA 94720