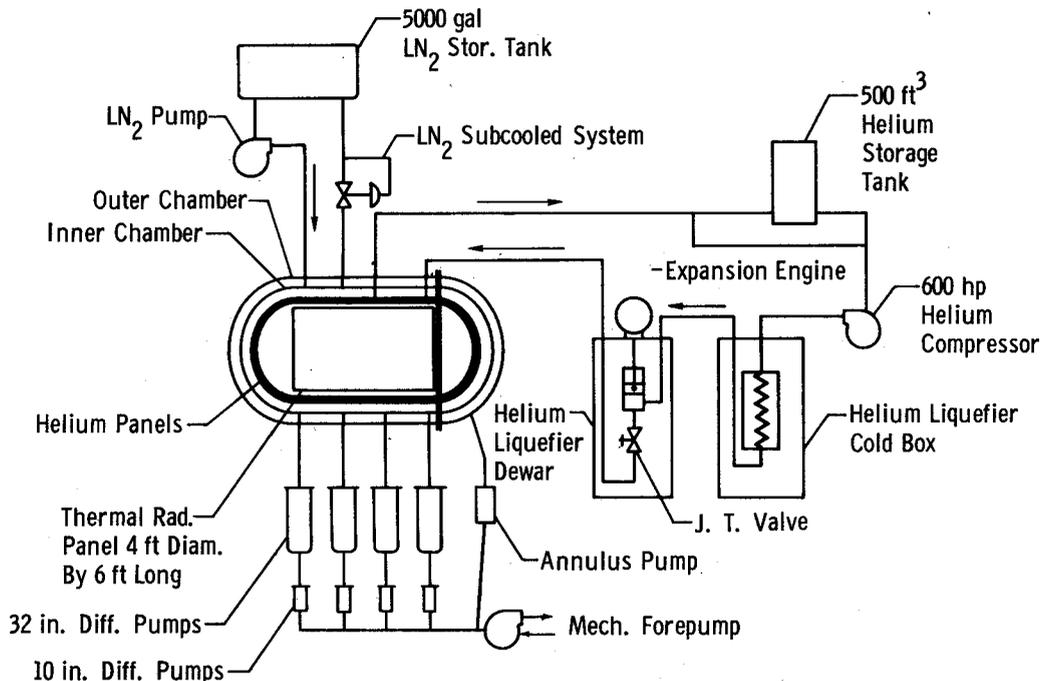

TECHNICAL FACILITIES RESUME

DATE OF RESUME: July 1, 1966

FACILITY NO: 04-00-16-00

1. REPORTING INSTALLATION: Langley Research Center
Hampton, Virginia
2. FACILITY NAME: 150 Cubic Foot Space Vacuum Facility
3. LOCATION (if other than in 1. above): Same as 1.



4. FUNCTIONAL NAME: Space Vacuum Facility
5. TECHNOLOGICAL AREAS SUPPORTED: Space environmental effects.
6. NARRATIVE DESCRIPTION OF FACILITY CAPABILITIES & FUNCTIONS:

This facility comprises an environmental chamber having the following salient provisions:

- Ultimate pressures of 2×10^{-12} torr.
- Continuous heat dissipation in the test volume from 1.4 KW at approximately 5°K to 10 KW at approximately 80°K.
- Cylindrical working volumes ranging from 4 feet in diameter and 6 feet long to 8 feet in diameter and 12 feet long.
- Radiant heat flux levels to approximately 2 1/2 solar constants.
- Feed thrus for observation, instrumentation, power, and linear and rotary motion.
- Helium liquifier having a minimum withdraw rate of 80 liters per hour of liquid helium.

6. NARRATIVE DESCRIPTION

Principle uses - To study the effects of space environment on the properties of materials or the functional and operational characteristics of mechanical or electronic components and systems such as:

- (a) The effects of vacuum on the properties of materials and components.
- (b) The effects of low temperature, brought about by the cold thermal sink of space, on the properties of materials and components.
- (c) The effects of high temperature, brought about by solar radiation, on the properties of materials and components.

Application - Space

Category - Space Environmental Chambers

7. POTENTIAL:

8. PLANS: C & F 2328 - 1962

9. BLDG. NO. 1236 10. YR. BUILT: 1965** 11. FAC. CAT. CODE: 330-10

12. INITIAL COST: \$ 1,480** K 13. NASA B.O.D. 1965 14. STATUS CODE: Active

15. ACCUM. COST: \$ 1,480** K 16. LIFE EXPECT. Indef. 17. OWNER CODE: NASA

18. OPER. CODE: NASA 19. CONTRACTOR NAME (if contr. oper.):

** This apparatus only

20. OTHER SOURCES OF INFO: "A Large Ultra High Vacuum Environmental Chamber with Liquid Helium Cooled Walls, N65-27376, RCA Service Co., April, 1965"

21. COGNIZANT ORGANIZATIONAL COMPONENT: Applied Materials and Physics Division

22. LOCAL OFFICE TO CONTACT FOR FURTHER INFO:

Chief, Research Models and Facilities Division (Code 56.000)
Phone: (Area Code 703) 722-7961, extension 4745