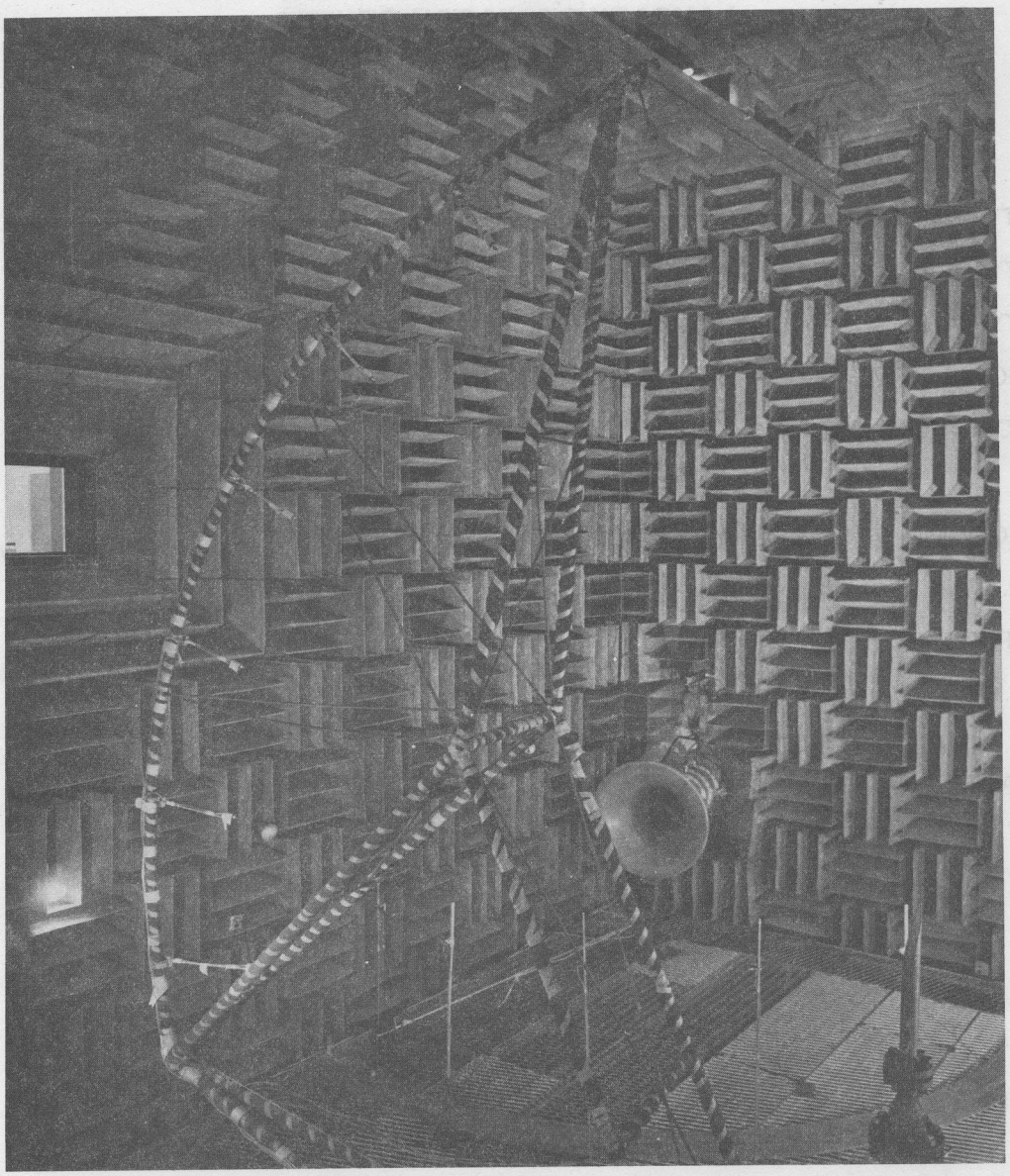
LANGLEY RESEARCH CENTER

FACILITY LOCATION	Hampton, Virginia 23665
FACILITY NUMBER	1218-A
FACILITY NAME	Anechoic Noise Facility
FUNCTIONAL NAME	Anechoic Test Chamber
TECHNOLOGICAL AREAS	Noise studies

INITIAL COST	$ 740 K	YR. BUILT	1966	STATUS CODE	Active
ACCUM. COST	$ 840 K	NASA B.O.D.	1966	OWNER CODE	NASA
LIFE EXPECT.	Indef.			OPER. CODE	NASA

CONTRACTOR NAME (if contr. oper.)	
POTENTIAL	This facility will both complement and supplement Aircraft Noise Reduction Laboratory research activities on models of fans, nozzles, and powered-lift systems.
PLANS	Data acquisition and acoustic analysis equipment will be updated.
OTHER INFO SOURCES	Effects of Temperature on Noise of Bypass Jets as Measured in the Langley Noise Research Facility, NASA TN D-2378, August, 1964; Noise Reduction by Means of Inlet-Guide-Vane Choking in an Axial-Flow Compressor, NASA TN D-4682, July, 1968
COGNIZANT ORG. COMPONENT	Acoustics and Noise Reduction Division
LOCAL CONTACT FOR FURTHER INFO	Chief, Research Facilities Engineering Division, Code 56.000; (804) 827-3171

January 1974



DESCRIPTION

The test chamber (8 m x 8 m x 8 m) is composed of acoustic fiberglass wedges that are 99% absorbent on the ceiling, floor, and walls so as to provide a free-field or anechoic environment. This capability permits measurements of the true noise radiation patterns of noise sources associated with aircraft and aerospace vehicles. A 300-psi air supply system is used to conduct studies of jet exhaust noise. The air system is designed with quiet valves and mufflers to provide a very low system noise. Jet nozzles of from one cm to 6 cm can be investigated at velocities of M 0.1 to M 2.5.

An electrically-driven 3-stage transonic noise research compressor of 25 lb/sec weight flow for studies of fan/compressor noise and/or as a noise source for engine nacelle inlet acoustic treatment studies is also available. Far-field noise surveys are accomplished by means of microphones on a rotating boom. Test frequency range is from 100 Hz to 60,000 Hz.