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AUG 07 1990

TO: NASA Headquarters  
Attn: RI/Office of Aeronautics, Exploration  
and Technology

FROM: 106/Director

SUBJECT: Proposals for National Resource Protection (NRP)

The following Langley Research Center facilities are recommended for inclusion in the NRP program. Factors considered during this selection process were the unique qualities of each facility; its contribution to an essential research program; risk and threat to each facility; and budgetary and administrative impacts associated with the nomination of the facilities. This proposal includes only Category B nominations.

Transonic Dynamics Tunnel - Building 648

The Transonic Dynamics Tunnel (TDT) is the only wind tunnel in the free world with capabilities for aeroelastic testing. The TDT is a large transonic wind tunnel dedicated specifically for work on dynamics and aeroelasticity problems associated with the development of high-speed aircraft.

National Transonic Facility - Building 1236

NASA's National Transonic Facility (NTF), located at the Langley Research Center, is a unique national laboratory that allows the United States to maintain leadership in commercial and high-performance military aircraft.

The NTF is the only aerodynamic, transonic wind tunnel capable of providing full aerodynamic similarity between a model and the flight vehicle. As such, this allows the designer to predict aircraft performance more accurately and, hence, minimize costly and timely corrections resulting from test of prototype vehicles.

8-Foot High-Temperature Tunnel (HTT) - Building 1265

The 8-Foot HTT is the largest high-enthalpy, hypersonic blowdown tunnel in the western world. The facility has a 8-foot diameter test cell and has the capability to provide true temperature

simulation of Mach 7 flight at altitudes between 80,000 feet and 130,000 feet for up to 2 minutes of test time. A facility modification project is adding Mach 4 and 5 true temperature simulation for altitudes down to 55,000 feet and a hydrogen system for ramjet and scramjet testing to support the NASP program. The facility will return to operation in 1992.

Other facilities and utilities such as power substations, utility tunnels and supporting activities will be appropriately addressed during facility surveys.

Original Signed by  
Richard H. Petersen

Richard H. Petersen

cc:

101/C&RMS

106/Director

103A/Deputy Director

103/Associate Director

103/Staff Assistant

117/Director for Electronics

118/Director for Structures

116/Director for Aeronautics

107/Director for Space

113/Director for Flight Systems

✓112/Director for Systems Engineering and Operations

111/Director for Management Operations

123/MSD

182/SSB

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123/RRK *RRK*

111/JFS *JFS 8/1/90*

103/SFP

Concur:

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