

**MEMORANDUM OF AGREEMENT
BETWEEN
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)
AND
DEPARTMENT OF DEFENSE (DoD)**

SUBJECT: Space Environmental Simulation Facilities

1. **Purpose:** To establish an Alliance for increased cooperation, improvements in efficiency, and the mutual benefits resulting from coordinated planning, acquisition, improvement, maintenance, operation, and utilization of space environmental simulation facilities. The members foresee that this cooperative arrangement will result in increased value to their customers through the beneficial exchange of information, technology, and management tools yielding increased efficiencies in the utilization of test facilities, people, and resources.
2. **Background:** In the present environment of downsizing, decreasing federal budgets, and resulting financial pressures, it is an intent of this Alliance to set the processes in place to assure that the present and future national requirements for spacecraft testing and evaluation are provided to our customers in an effective, cost efficient, and affordable manner.
3. **Scope:**
 - a. The Alliance shall be made up of NASA and DoD organizations that operate and maintain thermal vacuum and acoustic chambers capable of testing fully integrated aerospace systems. The possibility and benefits of expanding the Alliance to include other types of environmental test facilities, other government members, and aerospace industry members will be examined as future objectives of the Alliance. Any participation by industry in the activities of the Alliance will be ad hoc and by invitation. Industry participation shall be to provide information to the members of the Alliance. All decisions or recommendations by the Alliance will be made strictly by the government members.

b. **Membership:**

Initial DoD Members

Arnold Engineering Development Center
Naval Research Laboratory
Phillips Laboratory

Initial NASA Members

Goddard Space Flight Center
Jet Propulsion Laboratory
Lyndon B. Johnson Space Center
Lewis Research Center
George C. Marshall Space Flight Center

- c. This Alliance includes and is initially limited to NASA/DoD member organization's thermal vacuum and acoustic chambers large enough to accommodate at least a four-foot-cube test item, with adequate space surrounding the structure for safe, easy access while inside of the chamber. Chambers with minimum dimensions on the order of a 10 foot cube will generally meet this provision. Thermal vacuum chambers in this Alliance should have the capability of pressures of 1×10^{-6} torr or lower, and thermal shrouds capable of LN₂ temperatures or lower. Solar simulation capabilities and contamination-free pumping are optional features. Acoustic chambers should be capable of ~150 dB at frequencies in the range of 25 to 1000 Hertz. While the National Facilities Data Base may include chambers not covered by this Alliance, those that are covered by the Alliance will be specifically identified. The mutual use and exchange of information on facilities not specifically included in this Alliance is encouraged.
 - d. Oversight and execution of the Alliance activities between the member organizations will be performed by an Alliance team. This team, composed of one member from each organization, appointed by the director/commander of each member organization, will be co-chaired by one member each from the NASA and the DoD. NASA and DoD shall designate the co-chairs for their respective organizations. Co-chair terms will be for a two year period. The team is expected to meet at least twice each year with more frequent meetings during the first year of the Alliance. Special meetings will be called with the approval of the co-chairs. Meetings will be rotated among member locations.
 - e. The essence of the Alliance is cooperation, coordination, and consensus. Alliance team members will work to formulate recommendations of broad consensus. When any member so desires, dissenting opinions will be included in the written products produced by the Alliance team.
 - f. Recommendations produced by the Alliance team will be provided for consideration to the Directors or Commanders of the respective member organizations.
4. **Responsibilities of the Alliance Team:** Specific tasks will be accomplished as a matter of execution of the Alliance. Initial tasks are listed below in general order of priority and intended accomplishment.
- a. Develop a capabilities database and maintain standardized facility description/data so that potential users will be able to select the best test facility to meet their requirements. These data will be documented in the Major Facilities Inventory data base which was developed during the conduct of the DoD/NASA Cooperation Initiative. (Responsibility of the accuracy of the facility description remains with the facility owner.)
 - b. Establish and maintain metrics appropriate to the Alliance purpose and scope.

- c. **Exchange beneficial information and practices in areas such as training, maintenance, test technology, and test implementation to improve the management, efficiency, and productivity of the individual member's operations and testing activities.**
- d. **Develop strategic recommendations for NASA and DoD thermal vacuum and acoustic facilities supporting NASA and DoD requirements and goals.**
 - **Assess future program requirements and customer testing needs.**
 - **Define future facility capability and utilization requirements.**
 - **Evaluate shortfalls and unnecessary duplication in critical skills and facility capabilities.**
 - **Evaluate the servicing of commercial customers in government facilities.**
- e. **Support tactical planning for NASA/DoD thermal vacuum and acoustic facilities.**
 - **Annually review projected facility utilization as well as facility maintenance, repair, modifications, and acquisition planning of member organizations for alignment with strategic objectives.**
 - **Provide recommendations on appropriateness of, and where needed, possible alternative solutions to planned facility upgrades and acquisitions.**
 - **Implement a common definition for facility utilization and status.**
 - **Understand cost determination methods and practices for Alliance facilities in order to develop a basis for cost comparison.**
 - **Establish facility, equipment, and skills sharing arrangements.**
 - **Investigate approaches to the retention of critical skills and capabilities associated with thermal vacuum and acoustic testing.**
- f. **Examine the role of other government agencies in the Alliance.**
- g. **Maintain contact and communication with aerospace industry groups in regard to their cooperative efforts, including examination of the potential role of commercial aerospace firms.**
- h. **Examine the benefits and wisdom of expanding the Alliance to include other types of space testing facilities.**

- i. **Conduct special assessments and studies of thermal vacuum and acoustic test requirements and capabilities when tasked by the Aeronautics and Astronautics Coordinating Board (AACB) or its designee.**
5. **Responsibilities of Member Organizations:** Member organizations will remain responsible for the development, maintenance, scheduling, and operation of their own facilities. Additionally, member organizations will provide the necessary funding for its participation in Alliance activities including personnel, administrative services, and travel.
6. **Funding:** Each agency's ability to perform its obligations under this Agreement is subject to the availability of appropriated funds. If adequate appropriated funding is not available, either agency may unilaterally terminate this agreement. However, each agency shall use its best efforts to obtain needed funding.
7. **Recommendations and Disagreements:** Recommendations beyond the authority of the Alliance to enact will be forwarded to Agency management in the form of recommendations. Similarly, items not resolvable within the Alliance will be forwarded via the same avenues. Recommendations or issues should be forwarded with majority and minority viewpoints, if appropriate, and supporting rationale. If disagreements cannot be resolved, but are considered by either agency to be of sufficient importance, they may be brought to the AACB for disposition.
8. **Essential Operations:** Each agency will provide for continuing support for facilities on which the other agency has agreed to rely on—such a facility will not be closed or diminished in capability without prior coordination between the agencies. When any furlough, stand down, etc. is declared that will affect reliance support to the other agency, the Alliance will address each situation on a case-by-case basis and decide whether to recommend essential status to the appropriate management level.
9. **Reporting:** The Alliance will report annually to the AACB or its designee on the status of implementation and key activities.
10. **Patents, Proprietary and Classified Information:** Consistent with other joint usage agreements, each of the parties and their contractors shall retain unaffected all rights which they may have with respect to any patents, proprietary or classified information. Where it is mutually determined that patentable, proprietary or classified information shall be transferred in the interest of successfully implementing a cooperative program, this may be done under arrangements which fully recognize and protect the rights involved.
11. **Effectiveness, Review, and Termination Provisions:** This Memorandum of Agreement (MOA) will become effective upon signature of the appropriate NASA and DoD authorities, and will be reviewed annually (or at the request of either signatory) to determine the need for continuation, amendment, supersedure, or termination. Amendments to this MOA, renewals, or a superseding MOA may be made at any time

as a joint action by both parties. This MOA will remain in effect for five years. It may be renewed for additional five year periods.

1997 08 02

(noindopsA) eorof 2 A 12 10 eanof 2000

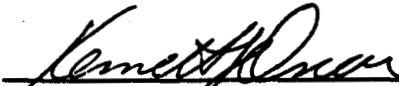
(noindopsA) eorof 2 A 12 10 eanof 2000


1997 08 02

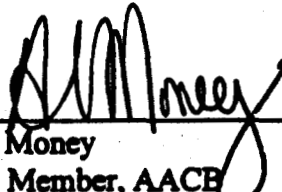
(noindopsA) eorof 2 A 12 10 eanof 2000

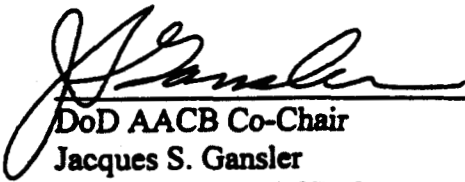
**MAJOR FACILITIES
MEMORANDUM OF AGREEMENT
BETWEEN
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
AND
DEPARTMENT OF DEFENSE
ON THE SPACE ENVIRONMENTAL SIMULATION FACILITIES**

DoD CONCURRENCE AND APPROVAL

 Date 5 Dec 97
Kenneth J. Oscar
Army Member, AACB
Acting Assistant Secretary of the Army (Research,
Development and Acquisition)


 Date DEC 02 1997
John W. Douglass
Navy Member, AACB
Assistant Secretary of the Navy
(Research, Development and Acquisition)

 Date 16 Dec 97
Arthur L. Money
Air Force Member, AACB
Assistant Secretary of the Air Force (Acquisition)

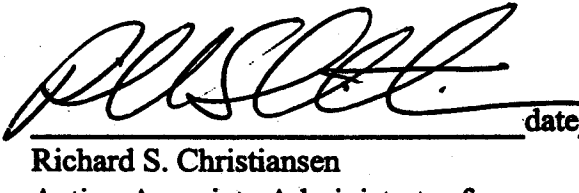
 Date DEC 24 1997
DoD AACB Co-Chair
Jacques S. Gansler
Under Secretary of Defense for Acquisition
and Technology, DoD

CONCURRENCE AND APPROVAL

NATIONAL SPACE ENVIRONMENTAL SIMULATION FACILITIES ALLIANCE

 date 12/5/97

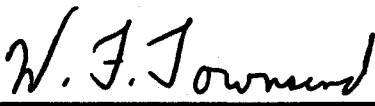
Wilbur C. Traflet
Associate Administrator for
Space Flight

 date 12/15/97

Richard S. Christiansen
Acting Associate Administrator for
Aeronautics and Space Transportation Technology

 date 12/22/97

Wesley T. Huntress, Jr.
Associate Administrator for
Space Science

 date 1/5/98

William F. Townsend
Acting Associate Administrator for
Mission to Planet Earth

 date 1.9.98

NASA AACB Cochair
J. R. Dailey
NASA Acting Deputy Administrator