

MEMORANDUM OF AGREEMENT BETWEEN

THE HEADQUARTERS UNITED STATES SPACE FORCE  
DIRECTORATE OF STRATEGIC REQUIREMENTS,  
ARCHITECTURES AND ANALYSIS (HQ USSF/S5/9)

AND

THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
SCIENCE MISSION DIRECTORATE (NASA/SMD)

FOR

SPACE SURVEILLANCE TELESCOPE DATA

AGREEMENT NUMBER NASA-USSF-2020

This is a Memorandum of Agreement (MOA) entered into between HQ USSF/S5/9 and NASA/SMD. When referred to collectively, HQ USSF/S5/9 and NASA/SMD are referred to as the “Parties.”

1. BACKGROUND:

1.1. This MOA continues the work begun when the Space Surveillance Telescope (SST) was located on White Sands Missile Range (WSMR), New Mexico. Disassembly of the SST began 6 March 2017 to comply with the 20 November 2013 *Memorandum of Understanding Between The Department Of Defence Of Australia and The Department of Defense of The United States of America Concerning Space Situational Awareness Partnership in Ground Based Optical Space Surveillance Telescope Capability* agreeing to relocate the SST from WSMR to Western Australia (WA). Telescope reassembly was finished in December 2019. Telescope calibration and testing began in January 2020.

1.2. NASA’s use of SST data dates back several years through financial support of the Lincoln Near-Earth Asteroid Research (LINEAR) program. Located at the Massachusetts Institute of Technology Lincoln Laboratory (MIT LL), a Federally Funded Research and Development Center (FFRDC) under contract to the U.S. Air Force (USAF) Electronic Systems Center, LINEAR is one of the key contributors to the national mission to identify and track Near-Earth Objects (NEOs). NASA funds MIT LL LINEAR for asteroid and comet detection work through this USAF contract.

1.3. LINEAR has developed and demonstrated a search strategy and an image processing pipeline to use the SST image data for asteroid search operations. Between 2014 and 2017,

the LINEAR program contributed more than 14 million observations on minor planets using SST data. During that period, 6001 new solar system objects were discovered, including 142 new NEOs, of which 11 were potentially hazardous asteroids (PHAs). Access to SST data once redeployed in Australia will give the NASA Planetary Defense Near-Earth Object discovery programs access to the southern hemisphere sky not available with current surveys, and increase the detection rate of PHAs.

2. **AUTHORITIES:** Authority for NASA: The Space Act Other Transactions Authority (OTA), 51 U.S.C. § 20113(e). Authority for USSF: DoDI 4000.19.

3. **PURPOSE:** This MOA between HQ USSF/S5/9 and NASA/SMD establishes responsibilities for a partnership in the transfer of image data collected by the SST located on land adjacent to Naval Communications Station (NCS) Harold E. Holt (HEH), WA, to the NASA LINEAR CONUS processing site for asteroid and comet detection.

4. **RESPONSIBILITIES OF THE PARTIES:**

4.1. HQ USSF/S5/9 will

4.1.1. Make available to the NASA LINEAR program at the Massachusetts Institute of Technology Lincoln Laboratory (MIT LL) SST image data from all regular SST Space Domain Awareness (SDA) search operations for processing via network data transfer. Public release of other AFSPC collected data will comply with the guidance in Air Force Instruction (AFI) 35-102, *Security and Policy Review*, the *Freedom of Information Act*, and applicable guidance from the United States Space Force (USSF).

4.1.2. Make data available on a non-interference basis with the SST SDA Mission. Data shall be made available at the beginning of the Australian Demonstration (AUS Demo) phase as listed in the SST Integrated Master Schedule.

4.1.3. Assist MIT LL in establishing the connectivity necessary for the NASA image data processing node (hereafter referred to as the “NASA Data Processing Cluster and Software (NDPCS)”). For example, engaging with the Defense Information Systems Agency (DISA) and the Australian Department of Defence DoD and providing statements of user needs or other assistance as required.

4.1.4. Review and obtain approval for data filtering and sanitization procedures allowing the production of UNCLASSIFIED NDPCS outputs and the subsequent public release of asteroid and comet observations by NASA. This approval and public release authorization will be completed using data taken during the AUS Demo and documented separately.

4.1.5. Assist MIT LL in securing approvals for cross domain solutions.

4.1.6. Comply with all terms of the SST Memorandum of Understanding (MOU) between the Department of Defence of Australia and the Department of Defense of the United States.

## 4.2. NASA/SMD will

4.2.1. Fund initial and recurring costs of any bandwidth, unique network connectivity, or unique equipment, over and above that needed for SST's primary mission for transfer of image data from the sensor located near HEH to the demark in Australia. Details of the communications path, equipment, and bandwidth requirements will be captured in subsequent documents and be updated with any changes introduced in subsequent years by changes in mission need or technology advancement.

4.2.1.1. Procure systems and processes to retrieve raw SST image data at MIT LL.

4.2.2. Fund initial and recurring costs of any bandwidth, unique network connectivity, or unique equipment, over and above that needed for SST primary mission from the demark in Australia to the CONUS processing site.

4.2.3. Procure and maintain the NDPCS, on SECRET-accredited computer hardware. The NDPCS will not be shared with SST mission equipment. The process for data filtering will be developed and documented separately. The NDPCS will be appropriately disposed of when no longer needed in accordance with applicable United States Government information assurance guidance.

4.2.4. Use test SDA data collected by SST in WSMR and during the AUS Demo in Australia to validate procedures for release of asteroid and comet observations prior to receiving approval for public release of the filtered SST data. NASA will release no data derived from SST operations until the acceptance by both Parties of the approval and public release authorization to be described in a future document.

4.2.5. Coordinate with USSF to ensure that processed asteroid and comet detections will be transmitted through a cross domain solution from the CONUS processing site to an UNCLASSIFIED network for subsequent use, follow-up, and release. Procurement and operation of the cross domain solution will be NASA's responsibility.

4.2.6. Procure all hardware or software required for asteroid and comet detection, processing, or data transmission not discussed above.

5. PERSONNEL: Each Party is responsible for all costs of its personnel, including pay and benefits, support, and travel. Each Party is responsible for supervision and management of its personnel.

## 6. GENERAL PROVISIONS:

6.1. POINTS OF CONTACT: The following points of contact (POC) will be used by the Parties to communicate in the implementation of this MOA. Each Party may change its point of contact upon reasonable notice to the other Party.

6.1.1. For HQ USSF/S5/9

6.1.1.1. Space Superiority Division (HQ USSF/S5S), Deputy Chief, Space Domain Awareness Branch, Mr. Robert Hardwick, 719-554-5184

6.1.2. For NASA/SMD

6.1.2.1. Planetary Science Division, Planetary Defense Officer, Mr. Lindley Johnson, 202-358-2314

6.2. CORRESPONDENCE: All correspondence to be sent and notices to be given pursuant to this MOA will be addressed, if to HQ USSF/S5/9, to

6.2.1. 150 Vandenberg Street, Suite 1105, Peterson AFB, CO 80914

and, if to NASA/SMD, to

6.2.2. 300 E Street, SW, Washington DC 20546-0001

or as may from time to time otherwise be directed by the Parties.

6.3. RELEASE OF GENERAL INFORMATION TO THE PUBLIC AND MEDIA: Pursuant to Section 841(d) of the NASA Transition Authorization Act of 2017, Public Law 115- 10 (the “NTAA”), NASA is obligated to publicly disclose copies of all agreements conducted pursuant to NASA’s 51 U.S.C. §20113(e) authority in a searchable format on the NASA website within 60 days after the agreement is signed by the Parties. The Parties acknowledge that a copy of this MOA will be disclosed, without redactions, in accordance with the NTAA.

6.4. REVIEW OF AGREEMENT: This MOA will be reviewed annually on or around the anniversary of its effective date for financial impacts and triennially in its entirety.

6.5. MODIFICATION OF AGREEMENT: This MOA may only be modified by the written agreement of the Parties, duly signed by their authorized representatives.

6.6. DISPUTES: Any disputes relating to this MOA will, subject to any applicable law, Executive Order, Directive, or Instruction, be resolved by consultation between the Parties or in accordance with DoDI 4000.19.

6.7. TERMINATION OF AGREEMENT: Due to funding and international partnership considerations, this MOA cannot be terminated within the first year of data flowing for the AUS Demo. After the first year, this MOA may be terminated with a written notice provided to the other Party at least 180 days prior to the end of the Australian fiscal year.

6.8. TRANSFERABILITY: This Agreement is not transferable except with the written consent of the Parties.

6.9. ENTIRE AGREEMENT: It is expressly understood and agreed that this MOA embodies the entire agreement between the Parties regarding the MOA’s subject matter.

6.10. EFFECTIVE DATE: This MOA takes effect upon the date of the last signature.

6.11. EXPIRATION DATE: If not previously terminated, this Agreement automatically expires upon the decommissioning of SST in Australia or five (5) years from the date the agreement is signed by both parties, whichever occurs first.

7. FINANCIAL DETAILS

7.1. FINANCIAL OBLIGATIONS: There will not be any transfer of funds between the Parties under this MOA and each Party will fund its own participation. All activities under or pursuant to this MOA are subject to the availability of funds, and no provision of this MOA shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, (31 U.S.C. § 1341). This MOA does not document the obligation of funds between the Parties. Any reimbursable activities that may be required in support of this MOA will be accomplished through separate reimbursable agreements.

AGREED:

For HQ USSF/S5/9

For NASA/SMD

WILLIAM J. LIQUORI, JR.  
Major General, USAF  
Director of Strategic Requirements,  
Architectures and Analysis

THOMAS H. ZURBUCHEN  
Associate Administrator,  
Science Mission Directorate

2 Jun 2020  
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(Date)

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(Date)