

**Interagency Memorandum of Agreement
for the
United States Satellite-Aided Search and Rescue System**

The Parties to this Memorandum of Agreement (MOA):

- a) The National Oceanic and Atmospheric Administration (NOAA);
- b) The National Aeronautics and Space Administration (NASA);
- c) The United States Air Force (USAF); and
- d) The United States Coast Guard (USCG);

Noting the importance of civil search and rescue (SAR) and related services in saving lives and property, and the benefits of applying satellite technology to improving the effectiveness and efficiency of SAR operations;

Noting the successful implementation of the national Search and Rescue Satellite-Aided Tracking (SARSAT) and international Cospas-Sarsat Programs, which have contributed to the rescue of more than 22,000 persons as of the entry into force of this Agreement;

Committing to cooperate to provide SAR distress alerting services, to meet domestic needs and obligations under international law;

Desiring particularly to support United States compliance with provisions of the *Convention on International Civil Aviation*, the *International Convention on Maritime Search and Rescue*, and the *Safety of Life at Sea Convention* and related international agreements and guidance;

Accounting for relevant requirements of many statutes, regulations, plans, treaties, and agreements outside of this MOA, including requirements for the United States as a Party to the 1988 *International Cospas-Sarsat Program Agreement (ICSPA)* and to the 1995 *Sarsat Memorandum of Agreement*, and of the *Agreement on the Promotion, Provision, and use of Galileo and the GPS satellite-based Navigation Systems and Related Applications* of June 26, 2004;

Being Participants of the *United States National Search and Rescue Plan* and members of the National Search and Rescue Committee, and striving to help achieve the objectives of the Committee as set forth in the *United States National Search and Rescue Committee Interagency Agreement*; and

Wishing to support the *U.S. Space-based Positioning, Navigation and Timing Policy* of December 15, 2004;

Have agreed as follows:

PURPOSE AND SCOPE

Note: For purposes of this MOA, the term "SARSAT" refers to the United States interagency SARSAT Program. The term SARSAT covers interagency involvement in current and developing space-based systems and in the

international Program. The term "international Program" is used in this MOA to refer collectively to the international SARSAT and Cospas-Sarsat Programs.

- 1) This MOA provides a legal and policy framework and Party commitments to continue supporting the existing operational SARSAT and international Cospas-Sarsat programs, and to develop a Medium-altitude Earth Orbiting SAR (MEOSAR) system called the Distress Alerting Satellite System (DASS).

- 2) This MOA, upon entry into force, will supersede the following two agreements:

Memorandum of Understanding among the National Oceanic and Atmospheric Administration, United States Coast Guard, United States Air Force, and the National Aeronautics and Space Administration regarding U.S. Responsibilities for the Cospas-Sarsat System, 1998 as revised and amended; and the

Memorandum of Agreement Regarding the Development and Demonstration of the Global Positioning System-Based Distress Alerting Satellite System, 2003.

AUTHORITIES

- 3) This MOA is executed under the following authorities:

- a) DOD Directive 3003.01 on *DOD Support to Civil Search and Rescue*, and DOD Instruction 4000.19 on *Inter-service Intergovernmental Support* apply to the USAF;
- b) *National Aeronautics and Space Act*, as amended, 42 U.S.C. §§ 2451 and 2473c apply to NASA;
- c) 33 U.S.C. § 883a and § 883e, and 49 U.S.C. § 44720 apply to NOAA; and
- d) 14 U.S.C. § 2 and § 93(a)(20) apply to the USCG; and
- e) The Economy Act, 31 U.S.C. § 1535 and § 1536 apply to the USCG and USAF.

COORDINATION AND OVERSIGHT

- 4) This MOA will be implemented under the coordination and oversight of a Program Steering Group (PSG).
 - a) A representative of NOAA serves as Chair of the PSG, and arranges for suitable secretary services for PSG support.
 - b) The PSG shall:
 - i) Be responsible for the overall management of the program and is comprised of representatives from each Party;
 - ii) Be responsible for policy, management, budgeting, and strategic planning for interagency matters covered by this MOA;
 - iii) Establish subordinate groups for development of operating plans, requirements, specifications, outreach activities, and related international positions, or other tasks it deems appropriate;

- iv) Normally make decisions by consensus; however, where consensus cannot be reached, decisions will be made by a majority vote at a convened meeting with all members present, or by an informal poll of the members with the results properly documented; and
- v) Shall ensure that senior managers within each Agency represented by the PSG membership is informed or involved, as appropriate, regarding key Program milestones, plans, decisions, resource requirements, or evolution.

RESPONSIBILITIES

Common Responsibilities

- 5) The primary common responsibilities of the Parties include the following:
 - a) Support MOA implementation;
 - b) Manage and coordinate United States activities by efforts that include, but are not limited to:
 - i) Providing appropriate support and attendance at Program meetings (a meeting quorum is suitable representation from each Party); and
 - ii) Providing appropriate collaboration and mutual support for implementing this MOA including, but not limited to, consultation among managers, formulating policies, attending relevant meetings of other organizations, conducting exercises, developing procedures, techniques and equipment, conducting training, and generally taking steps to help ensure the success of SARSAT and the international Program.
 - c) Support ongoing evaluation of the SARSAT Program and system, including development and implementation of DASS;
 - d) Support SARSAT strategic planning; and coordinate and develop associated agency implementation plans;
 - e) Support outreach efforts to educate the public about SARSAT, and to promote proper use and registration of distress beacons by persons at risk;
 - f) Assist with relevant education efforts for SAR personnel, equipment manufacturers, regulatory authorities, and other Program stakeholders;
 - g) Coordinate efforts on relevant legislative or regulatory initiatives;
 - h) Identify operational SAR and SARSAT performance requirements that the Parties can help satisfy;
 - i) Consider the interests of the current and future operational international Program in decisions affecting the DASS Proof of Concept (POC) and Demonstration and Evaluation (D&E);
 - j) Support development and operation of the international SARSAT program and system by participating on behalf of the United States in meetings of the Cospas-Sarsat Council, Joint Committee, and other associated forums as appropriate;
 - k) Conclude, individually or collectively, arrangements with entities that are not Party to this MOA that may help the Parties to fulfill their responsibilities; and

- l) Develop, before this MOA expires, a superseding MOA that will enter into force on or about the time when DASS is declared operational; this MOA will define the structure of the SARSAT Program for the duration of the superseding MOA, taking into account the evolution of the Program.

Note: The POC phase is intended to provide the United States SARSAT agencies with evidence that DASS is viable and capable of performing as expected, and the D&E phase is similarly intended to gain confidence in DASS among international stakeholders in the Cospas-Sarsat Program.

Party Responsibilities

NOAA

- 6) NOAA shall:
 - a) Serve as the lead United States agency for the national SARSAT and international Cospas-Sarsat programs;
 - b) Procure, manage, operate, maintain and control the U.S. Low Earth Orbiting SAR (LEOSAR) and Geostationary Operational Environmental Satellite (GOES) satellites;
 - c) Procure, manage, operate, maintain and control any U.S. LEOSAR, GOES and MEOSAR ground segments, as well as associated backup equipment, to receive and process data from U.S. or foreign satellites, and associated communications, including data processing and communications support for U.S. rescue coordination centers (RCCs) as agreed by the Parties;
 - d) Operate the U.S. Mission Control Center to collect, process, store and sort distress and security alert data from LEOSAR, GOES, and MEOSAR ground stations and from mission control centers operated by other nations, and properly distribute the data to national and international SAR authorities or to other mission control centers;
 - e) Provide for the construction, integration and launch of SAR hardware to be flown on NOAA satellites in cooperation with NASA and other nations as appropriate;
 - f) Maintain the national register for 406 MHz emergency beacons and provide data within and outside the U.S. in accordance with established plans;
 - g) Provide spacecraft data to ground segment providers as appropriate;
 - h) Provide, as appropriate or required, oversight and support for the Cospas-Sarsat Secretariat and for national and international meetings;
 - i) Coordinate development projects and contracts undertaken by the PSG;
 - j) Provide SARSAT administrative and secretarial support;
 - k) Coordinate planning for the operational DASS and foreign MEOSAR systems;
 - l) Support tests and demonstrations through the U.S. ground system and, as appropriate, through the international Program; and
 - m) Coordinate resolution of national and international spectrum management issues.

NASA

- 7) NASA shall:

- a) Fund and perform research and development (R&D) and technical assessments in accordance with NASA's mission;
- b) Provide technical support for the national and international working groups on a reimbursable basis;
- c) As capabilities permit, provide any agency-specific R&D and technical support to the Parties as may be needed on a reimbursable basis;
- d) Provide integration, test, post-launch evaluation and performance monitoring of the LEOSAR, Geostationary SAR (GEOSAR), and MEOSAR spacecraft on a reimbursable basis and in accordance with other agreements;
- e) Provide facility support for SARSAT equipment installed at NASA facilities;
- f) Define space and ground segment performance, and provide for design, construction and testing of the DASS payload that will be aboard the Global Positioning System (GPS) satellites;
- g) Define and carry out DASS POC testing;
- h) Work with other agencies to help ensure that DASS integration and performance meets SARSAT requirements; and
- i) Support D&E activities on a cost-reimbursable basis on terms agreed to by the parties in separate agreement(s).

USAF

- 8) The USAF shall:
- a) Use SARSAT and international Cospas-Sarsat system data to help carry out operational SAR responsibilities;
 - b) Help to identify SARSAT and international Cospas-Sarsat operational requirements, and help to develop related functional and environmental specifications for these systems and their interfaces with SAR services;
 - c) Provide input on problems and solutions for SARSAT and the international Cospas-Sarsat Program;
 - d) Ensure that SAR personnel are properly informed about SARSAT and the international Program, and are well-trained in use of data from these systems;
 - e) Help identify, prioritize, support, fund and oversee USAF-specific SARSAT and DASS R&D efforts, respectively;
 - f) Participate as appropriate in interagency or international exercises and evaluations;
 - g) Provide facility support for SARSAT equipment hosted at USAF facilities, respectively;
 - h) Coordinate procedures for processing received SARSAT data;
 - i) Document beacon false alerts, actively work to reduce them and participate in efforts to minimize their detrimental effects;
 - j) Report known beacon problems to appropriate authorities and support suitable corrective actions;
 - k) Continue to evaluate SARSAT's effectiveness to help identify needed system improvements and potential new applications;

- l) Coordinate regulatory requirements for certification, carriage and use of emergency beacons;
- m) Assist in planning, demonstrating and evaluating the effectiveness of DASS and other MEOSAR systems;
- n) Develop requirements for DASS payloads aboard future GPS satellites and support their integration;
- o) Help define space segment performance requirements; and
- p) Support on-orbit operations and maintenance, and early-orbit payload testing of DASS aboard future GPS satellites.

USCG

- 9) The USCG shall:
- a) Use SARSAT and international Cospas-Sarsat system data to help carry out operational SAR responsibilities;
 - b) Identify SARSAT and international Cospas-Sarsat operational requirements; assist in developing related functional and environmental specifications for these systems and their interfaces with SAR services;
 - c) Provide input on problems and solutions for SARSAT and the international Cospas-Sarsat Program;
 - d) Ensure that SAR personnel are properly informed about SARSAT and the international Program, and are well-trained in use of data from these systems;
 - e) Help identify, prioritize, support, fund and oversee USCG-specific SARSAT and DASS R&D efforts, respectively;
 - f) Participate as appropriate in interagency or international exercises and evaluations;
 - g) Provide facility support for SARSAT equipment hosted at USCG facilities;
 - h) Coordinate procedures for processing received SARSAT data;
 - i) Document beacon false alerts, actively work to reduce them and participate in efforts to minimize their detrimental effects;
 - j) Report known beacon problems to appropriate authorities and support suitable corrective actions; and
 - k) Continue to evaluate SARSAT's effectiveness to help identify needed system improvements and potential new applications.
 - l) Coordinate regulatory requirements for certification, carriage and use of emergency beacons; and
 - m) Assist in planning, demonstrating and evaluating the effectiveness of DASS and other MEOSAR systems.

ADDITIONAL PARTIES

- 10) Additional Parties may be added by an exchange of letters among those who are already Parties at the time and the Federal entity wishing to become an additional Party. Such letters

will specify the agreed roles, responsibilities, and financial obligations of the Party to be added.

FUNDING

- 11) The Parties to this MOA will:
 - a) Fund their respective portions of the Program costs in accordance with the SARSAT Spend Plan, which is developed and approved by the PSG.
 - b) The SARSAT Spend Plan, which will be updated annually and cover a period of at least five years, will guide any necessary planning and budget efforts by the Parties to ensure coordination of their respective contributions.
 - c) All activities carried out under or pursuant to this MOA are subject to availability of appropriated funds (and all Parties shall strive to ensure equitable apportionment of their contributions.)
 - d) Ensure proper budget authority prior to obligation of funds; and
 - e) The costs for staff salaries, travel, training, and routine expenses of each Party are the responsibility of each Party.

RESOLUTION OF DISAGREEMENTS

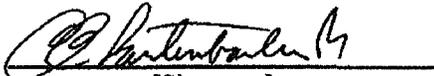
- 12) It is intended that any disagreements regarding provisions or amendments of this MOA be resolved at the operating level; however, if that cannot be done, each Party shall submit its area(s) of disagreements in writing to the other Parties for further consideration. If agreement cannot be reached thereafter within thirty days, the Parties shall refer the matter to their respective higher levels for resolution.

OTHER PROVISIONS

- 13) Nothing in this Agreement is intended to conflict with current law or regulation or the directives of the National Oceanic and Atmospheric Administration or Department of Commerce, the National Aeronautics and Space Administration, the United States Coast Guard or Department of Homeland Security, or the United States Air Force or Department of Defense. If a term of this agreement is inconsistent with such authority, then that term shall be invalid, but the remaining terms and conditions of this Agreement shall remain in full force and effect.

ENTRY INTO FORCE, RENEWAL, AMENDMENT AND TERMINATION

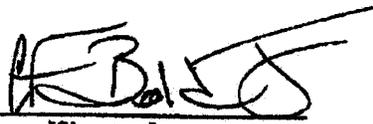
- 14) Entry into Force: This agreement is effective upon the date of the last Party signature. It shall remain in effect for five (5) years from the date of the final signature.
- 15) Renewal: This agreement may be renewed in five-year intervals by written agreement of the Parties until the MEOSAR Demonstration & Evaluation (D&E) is complete.
- 16) Amendment: This agreement may be amended by written agreement of the Parties.
- 17) Termination: This agreement will terminate upon execution of a superseding MOA or upon written agreement of the Parties. A party wishing to terminate its participation in the agreement must provide 180 days written notice to all Parties.


[Signature]

CONRAD C. LAUTENSBACHER, JR.
[Printed Name]

Under Secretary of Commerce for Oceans
and Atmosphere / Administrator,
National Oceanic and Atmospheric
Administration

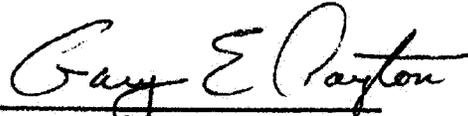
Date: 9/11/08


[Signature]

Charles F. Bowen Jr.
[Printed Name]

Administrator,
National Aeronautics and Space
Administration

Date: SEP 16 2009


[Signature]

GARY E. PAYTON
[Printed Name]

Under Secretary,
United States Air Force
FEB 25 2010

Date: _____


[Signature]

Thad W. Allen
[Printed Name]

Commandant
United States Coast Guard

Date: APR 22 2009