AGREEMENT

BETWEEN

THE UNITED STATES NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

AND

THE EUROPEAN ORGANISATION FOR THE EXPLOITATION OF METEOROLOGICAL SATELLITES

ON

A JOINT POLAR SYSTEM

PREAMBLE

The United States National Oceanic and Atmospheric Administration (hereinafter referred to as "NOAA"), representing the interests of the National Aeronautics and Space Administration, the Department of Defense, and other interested U.S. Government agencies, on matters relating to this Agreement, in order to ensure uninterrupted, operational Polar-orbiting, environmental satellite observations,

and

The European Organisation for the Exploitation of Meteorological Satellites established by the Convention opened for signature in Geneva, Switzerland on May 24, 1983 and entered into force on June 19, 1986, (hereinafter referred to as "EUMETSAT"), as amended by the Amending Protocol attached to EUMETSAT Council Resolution EUM/C/Res. XXXVI, which entered into force on November 19, 2000,

RECOGNIZING the importance to users worldwide of continuity and timely delivery of satellite observations for operational weather and climate monitoring, as well as for environmental monitoring services,

RECALLING that EUMETSAT and NOAA have enjoyed long-standing and fruitful cooperation in the field of Earth observation, witnessed by their cooperation in the development and operation of geostationary meteorological and polar-observing satellite systems, including the Ocean Surface Topography Mission and Jason-3 mission,

RECALLING the Agreement between NOAA and EUMETSAT on Long-Term Cooperation signed on August 27, 2013, which provides a high-level political framework for the relationship between NOAA and EUMETSAT,

RECALLING that the primary objective of EUMETSAT is to establish, maintain and exploit European systems of operational meteorological satellites, taking into account as far as possible the recommendations of the World Meteorological Organization, and that a further objective of EUMETSAT is to contribute to the operational monitoring of the climate and the detection of global climatic changes,

RECALLING that EUMETSAT has launched and operates the geostationary Meteosat satellites and the polar-orbiting Metop satellites of the EUMETSAT Polar System (EPS) which is the European contribution to the European-U.S. Initial Joint Polar-Orbiting Satellite System (IJPS) to provide and improve operational meteorological and environmental forecasting and global climate monitoring services worldwide,

RECOGNIZING the importance of the EPS and the establishment of a EUMETSAT Polar System Second Generation (EPS-SG) Programme to continue to provide continuity of observations for weather forecasting and climate change and to respond to the needs of the users in the 2020 timeframe,

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RECALLING that NOAA has launched and operated polar-orbiting operational satellites, which have unique Earth-observing capabilities, and has provided data from these satellites for worldwide use for more than fifty years,

NOTING that the United States is developing the Joint Polar Satellite System (JPSS) as a follow-on to NOAA's Polar-orbiting Operational Environmental Satellite (POES) series,

NOTING that the U.S. Department of Defense is operating the Defense Meteorological Satellite Program (DMSP) and has conducted an Analysis of Alternatives regarding its follow-on program,

NOTING that the JPSS and the DMSP systems are designed to meet user requirements for long-term observations from the afternoon and early-morning orbits, respectively,

TAKING INTO ACCOUNT the wider objectives of the World Meteorological Organization (WMO) Global Observing System, the Global Climate Observing System (GCOS), the United Nations Environmental Programme (UNEP), the United Nations Framework Convention on Climate Change (UNFCCC), the Global Earth Observing System of Systems (GEOSS), the Committee on Earth Observation Satellites (CEOS), the Intergovernmental Oceanographic Commission (IOC), and other related programs,

NOTING the Copernicus Programme of the European Union to be implemented by the European Commission, and based inter alia on Delegation Agreements with the European Space Agency and with EUMETSAT, as per Regulation (EU) No 377/2014 of the European Parliament and the Council establishing the Copernicus Programme and Repealing Regulation (EU) No 911/2010 ("Copernicus Regulation"), which aims to develop a portfolio of European operational services relevant to environment and security, and the request by NOAA to receive directly from EUMETSAT the data from those Copernicus Sentinel missions which are operated by EUMETSAT on behalf of the European Union,

NOTING the Commission Delegated Regulation (EU) No 1159/2013 of 12 July 2013 supplementing Regulation (EU) No 911/2010 of the European Parliament and the Council on the European Earth Monitoring Programme (GMES) by establishing registration and licensing conditions for GMES users and defining criteria for restricting access to GMES dedicated data and GEMS service information,

RECALLING the Agreement between NOAA and EUMETSAT on the IJPS signed on November 19, 1998, and the Agreement on the Joint Transition Activities Regarding Polar-Orbiting Operational Environmental Satellite Systems (JTA), signed on June 24, 2003, and as subsequently amended,

RECALLING that the JTA Agreement provides for cooperation including Metop-3, Suomi National Polar-orbiting Partnership, and JPSS-1 missions, and transition activities,

RECALLING that the JTA Agreement called for NOAA and EUMETSAT to make all reasonable efforts to sign an agreement for a future Joint Polar System (JPS) in order to ensure continuity of data and services from polar orbit,

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NOTING the Resolution EUM/C/73/11/Res.1 on the EUMETSAT EPS-SG Preparatory Programme adopted by the EUMETSAT Council on November 15, 2012, by which the EUMETSAT Member States decided to establish the Preparatory Programme to cover EPS-SG Phase B activities,

NOTING the Resolution EUM/C/80/14/Res. I on the EPS-SG Programme, by which the EUMETSAT Member States decided to establish the EPS-SG Programme,

NOTING the respective agreements between EUMETSAT, ESA, DLR Space Agency, and CNES concerning the EPS-SG Programme,

NOTING the Memorandum of Understanding between NOAA and CNES for the Argos Data Collection and Platform Location System (Argos System), the Agreement between EUMETSAT and CNES for the Argos Data Collection and Platform Location System, the relevance of Argos to both NOAA and EUMETSAT polar missions, and the value of coordination through the Argos Operations Committee,

NOTING the Agreement between EUMETSAT and the U.S. Department of Defense (DoD) of August 9, 2014 Concerning the Sharing of Space Situational Awareness Services and Information,

CONFIRMING the undertaking of NOAA and EUMETSAT to establish a JPS that will support operational meteorology, oceanography, atmospheric chemistry, and climate monitoring, including additional environmental services,

HAVE AGREED AS FOLLOWS:

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Article 1
PURPOSE AND PRINCIPLES OF COOPERATION

1.1 This Agreement, as anticipated in the Initial Joint Polar System (IJPS) and Joint Transition Activities (JTA) agreements, defines the terms of cooperation between NOAA and EUMETSAT, jointly referred to as the Parties, establishing and exploiting a Joint Polar System (referred hereinafter as JPS) as described in Article 2. Under the terms of this Agreement, NOAA and EUMETSAT will work cooperatively and make best efforts to carry out their respective responsibilities under this Agreement in order to provide long-term continuity of observations from polar missions.

1.2 NOAA and EUMETSAT will coordinate their services to optimize the overall value to their users taking into account the recommendations of the Coordination Group for Meteorological Satellites (CGMS) and WMO. To achieve this principle, NOAA and EUMETSAT will cooperate on and coordinate aspects of mission development and implementation, such as orbits, ground infrastructure, interface to users, common formats, operations, and risk reduction activities.

1.3 This Agreement also contemplates utilizing satellites and ground segment infrastructure covered under the IJPS and JTA Agreements for the purpose of developing and demonstrating initial capabilities for JPS, as stated in Article 4.4 of the JTA Agreement.

Article 2
GENERAL SYSTEM DESCRIPTION

The JPS will consist of the following family of systems:

- The NOAA Joint Polar Satellite System (JPSS) covering the afternoon orbit (PM)
- The EUMETSAT Polar System Second Generation (EPS-SG) covering the mid-morning orbit (mid-AM)
- The independent U.S. Department of Defense (DoD) systems covering the early morning orbit (early-AM)

2.1 SATELLITES

The satellites covered by this Agreement consist of the following three series of independent operational satellites that maintain complementary polar orbits with early morning, mid-morning and afternoon equatorial crossing times. The spacecraft and instrumentation together are referred to as "the Satellite(s)".

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2.1.1 NOAA SERIES

2.1.1.1 JPSS

The JPSS series (JPSS-2, JPSS-3, JPSS-4) will operate in an orbit with an afternoon equatorial crossing time (hereinafter "the NOAA Satellites").

The instruments planned for JPSS series are as follows:

- Visible/Infrared Imager/Radiometer Suite (VIIRS)
- Cross-track Infrared Sounder (CrIS)
- Advanced Technology Microwave Sounder (ATMS)
- Radiation Budget Instrument (RBI)[1]
- Ozone Mapping and Profiler Suite (OMPS).[1]

2.1.1.2 Instruments with Alternate Accommodations

NOAA will support the accommodation and launch of the following instruments:

- Advanced Data Collection System (A-DCS)
- Search and Rescue Satellite Aided Tracking (SARSAT)

2.1.2 EUMETSAT SERIES

The satellites of the EPS-SG (Metop-SG-A1 and Metop-SG-B1, followed by -A2/B2 and -A3/B3) will operate in an orbit with a mid-morning equatorial crossing time (hereinafter "the EUMETSAT Satellites").

The instruments planned for the satellites of the EPS-SG are as follows:

- Visible Infrared Imager (METimage)
- Infrared Atmospheric Sounding Interferometer New Generation (IASI-NG)
- Microwave Sounder (MWS)
- Microwave Imager (MWI)
- Ice Cloud Imager (ICI)
- Scatterometer (SCA)
- Sentinel-5 Nadir Viewing Ultraviolet Visible Near Infrared Shortwave Infrared Sounder (UVNS)
- Multi-viewing Multi-channel Multi-polarization Imager (3MI)
- Radio Occultation Sounder (RO)
- Advanced Data Collection System (A-DCS).

[1] Instrument will be flown on JPSS series if provided by NASA

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2.1.3 U.S. DEPARTMENT OF DEFENSE SERIES

The U.S. DoD plans to operate the legacy DMSP satellites in an orbit with an early-morning equatorial crossing time (hereinafter "the DoD Satellite") through the end of the life of the Satellite. The instruments on the DMSP satellites include:

- Operational Linescan System (OLS)
- Special Sensor Microwave Imager/Sounder (SSMIS)
- Special Sensor Ultraviolet Limb Imager (SSULI)
- Special Sensor Ultraviolet Spectrographic Imager (SSUSI)
- Topside Ionospheric Plasma Monitor (SSI/ES-3)
- Precipitating Particle Sensor (SSJ/5)

2.2 ACCESS TO DATA FROM OTHER RELEVANT MISSIONS

Subject to agreement with the system owners, this Agreement also covers access to the following third party missions:

- Constellation Observing System for Meteorology Ionosphere and Climate (COSMIC) and COSMIC-2
- European Copernicus Sentinel-3 (marine)
- Any other mission agreed to by the Parties.

2.3 GROUND SEGMENT

The NOAA Ground Segment for the U.S. satellites and the EUMETSAT Ground Segment for the EUMETSAT satellites will each include:

2.3.1 A primary satellite control center and a geographically separate backup;

2.3.2 At least one telemetry, tracking, and control ground station and a geographically separate backup;

2.3.3 In continuity of the IJPS and JTA agreements, data acquisition ground stations in Arctic/Northern and Antarctic/Southern latitudes to meet data timeliness requirements;

2.3.4 At least one Data Processing, Distribution and Archive Facility. Data and products may be exchanged as agreed in the Programme Implementation Plan (PIP) as described in Article 11 of this Agreement. Data formats will be standardized between the Parties to the maximum extent feasible; and

2.3.5 Telecommunications capabilities necessary to ensure the timely and reliable exchange of agreed-to data and products including any relevant housekeeping data from the systems covered by the Agreement. Appropriate information security measures will be coordinated by the Parties in compliance with their respective information security policies and requirements.

2.4 DEFINITIONS

The terms below, when used in this Agreement, shall have the following meaning:

2.4.1 Interface Point: Point defined to be the interface between the Parties for a given mission at a given ground station (Arctic or Antarctic), to be agreed in the PIP.

2.4.2 Data Reception: Receipt of signals from the spacecraft by the antenna system and up to an agreed Interface Point.

2.4.3 Data Routing: Transmission of data from an agreed Interface Point to the point of delivery determined by each Party.

Article 3
NOAA RESPONSIBILITIES

NOAA shall:

3.1 SYSTEM AND SERVICES

3.1.1 Provide the NOAA Satellites described in Article 2.1.1;

3.1.2 Operate the NOAA Satellites as described in Article 2.1.1;

3.1.3 Provide the Ground Segment as described in Article 2.3 for the NOAA satellites;

3.1.4 Provide launch services and early on-orbit operations for the NOAA satellites;

3.1.5 Share with EUMETSAT information on the status and plans associated with continuity of observations of the afternoon orbit;

3.1.6 After coordinating plans and launch requirements with EUMETSAT, launch the NOAA satellites in time to ensure the uninterrupted availability of imaging and sounding data and other data that the Parties agree is critical;

3.1.7 Coordinate operations with EUMETSAT;

3.1.8 Coordinate with EUMETSAT Argos Operations Committee activities as related to the Argos system;

3.1.9 Coordinate with the DoD the provision of the data and products from the satellites as described in Article 2.1.3;

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3.1.10 For McMurdo, Antarctica, coordinate with NSF for access by both Parties, including personnel, transportation, equipment, logistics, infrastructure and communication capabilities;

3.1.11 For McMurdo, coordinate with appropriate U.S. agencies for technical support for both Parties;

3.1.12 At McMurdo, provide global mission Data Reception, and associated maintenance, for the NOAA, DoD, and EUMETSAT satellites;

3.1.13 At McMurdo, integrate and test, EUMETSAT-mission specific equipment required to utilize NOAA-provided antennas;

3.1.14 Relying on NSF, provide Data Routing required for NOAA and EUMETSAT data downlinked at McMurdo to the point of delivery agreed by the Parties;

3.1.15 At Svalbard, Norway, provide Data Reception contingency services to EUMETSAT;

3.1.16 At Svalbard, provide any NOAA mission specific equipment required to utilize EUMETSAT-provided antenna systems and support their integration and testing;

3.1.17 At Svalbard, provide Data Routing required for NOAA data to the point of delivery;

3.1.18 Facilitate EUMETSAT access to space surveillance data support services to monitor space objects, avoid collisions and support satellite re-entry monitoring; and

3.1.19 Provide to EUMETSAT available information on space weather monitoring to support satellite flight operations.

3.2 ANOMALY OR EMERGENCY

Assist EUMETSAT in cases of anomaly or emergency situations.

3.3 DATA EXCHANGE

Make available to EUMETSAT in a timely manner in accordance with the provisions of Article 10, all data and products derived from data collected from the satellites referred to in Articles 2.1.1 and 2.1.3, and from the satellites referred to in Article 2.2 with respect to which agreement is reached with the system owner.

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3.4 APPLICATIONS

Collaborate with EUMETSAT on the development of applications, including software, to utilize the JPS data, as appropriate. Such cooperation by the Parties will include exchange of source and object code as well as test data. Broad distribution of the resulting software will be on a not-for-profit basis. NOAA may collaborate with EUMETSAT on the development of other software, as appropriate, in source and object form, and exchange the resulting software.

Article 4
EUMETSAT RESPONSIBILITIES

EUMETSAT shall:

4.1 SYSTEM AND SERVICES

4.1.1 Provide the EUMETSAT Satellites described in Article 2.1.2;

4.1.2 Operate the EUMETSAT satellites as described in Article 2.1.2;

4.1.3 Provide the Ground Segment as described in Article 2.3 for the EUMETSAT satellites;

4.1.4 Provide launch services and early on-orbit operations for the EUMETSAT satellites;

4.1.5 Share with NOAA information on the status and plans associated with continuity of observations of the mid-morning orbit;

4.1.6 After coordinating plans and launch requirements with NOAA, launch the EUMETSAT satellites in time to ensure the uninterrupted availability of imaging and sounding data and other data that the Parties agree is critical;

4.1.7 Coordinate operations with NOAA;

4.1.8 Coordinate with NOAA Argos Operations Committee activities as related to the Argos system;

4.1.9 At McMurdo, provide any EUMETSAT mission specific equipment required to utilize NOAA-provided antenna systems and support their integration and testing;

4.1.10 Provide to NOAA its requirements, including bandwidth, for Data Routing from McMurdo;

4.1.11 At Svalbard, provide global mission Data Reception, and associated maintenance, for the NOAA and EUMETSAT satellites;

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4.1.12 At Svalbard, integrate and test, NOAA-mission specific equipment required to utilize EUMETSAT-provided antennas;

4.1.13 At Svalbard, provide Data Routing required for EUMETSAT data to the point of delivery;

4.1.14 At Svalbard, provide telemetry and command services to NOAA on a regular basis, and additional capacity if requested and available; and

4.1.15 At Svalbard, integrate and test, any mission specific equipment required for NOAA to utilize EUMETSAT-provided antennas.

4.2 ANOMALY OR EMERGENCY

Assist NOAA in cases of anomaly or emergency situations.

4.3 DATA EXCHANGE

Make available to NOAA in a timely manner in accordance with the provisions of Article 10, all data and products derived from data collected from the satellites referred to in Article 2.1.2, and from the satellites referred to in Article 2.2 with respect to which agreement is reached with the system owner.

Provide access to the EPS-SG regional data service and consider improvement of coverage by adding ground stations to the EPS-SG regional network, as appropriate.

4.4 APPLICATIONS

Collaborate with NOAA on the development of applications, including software, to utilize the JPS data, as appropriate. Such cooperation by the Parties will include exchange of source and object code as well as test data. Broad distribution of the resulting software will be on a not-for-profit basis. EUMETSAT may collaborate with NOAA on the development of other software, as appropriate, in source and object form, and exchange the resulting software.

Article 5
ADDITIONAL COOPERATION ACTIVITIES OF THE PARTIES

5.1. The Parties will cooperate to:

- Maximize the compatibility of space to ground interfaces, taking into account each other's system configuration;
- Jointly specify user station requirements with the goal to have one JPS user station specification; and
- Ensure long-term continuity of observations from polar-orbit, beyond this Agreement to include coordination of plans, orbits, and risk reduction activities. .

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5.2. With a view to their early implementation, both Parties shall continue to explore cooperative activities in the following areas under this Agreement:

- Ground segment commonality and sharing;
- Improvement of the regional service coverage throughout the JPS lifetime;
- Technical, planning and operational coordination;
- Coordination, cross support and services for the JPS Operations;
- Cross support on calibration and validation;
- Scientific cooperation; and
- Training.

Specific cooperation resulting from this Article may require a separate agreement(s).

Article 6
FUNDING

6.1 Each Party shall bear the costs of fulfilling its respective responsibilities. There shall be no exchange of funds between NOAA and EUMETSAT. However, in exceptional circumstances (such as recognized in Articles 6.4 and 6.6 concerning operations at McMurdo), this shall not preclude transferring funds to facilitate the implementation of one Party's responsibilities by the other Party. Such transfers shall be negotiated on a case-by-case basis and agreed in writing.

6.2 The financial obligations of NOAA and EUMETSAT are subject to the funding procedures of the respective organizations and to the availability of appropriated funds. EUMETSAT will approve the overall programme financial envelope covering its contribution to the JPS, through adoption of the EPS-SG Programme Resolution by the EUMETSAT Council, whereas NOAA must rely on yearly appropriations from the U.S. Congress. Funds necessary to meet its obligations for the JPS will be included by NOAA in its annual budget request with a high priority.

6.3 The cost of transporting equipment required for the execution of the JPS from one Party to a first destination of the other Party will be borne by the Party dispatching the equipment. Other than the exceptions referred to in Article 6.4, the receiving Party will be responsible for any subsequent transport or return of the equipment to the Party of original dispatch.

6.4 Each Party will be responsible for the transportation cost for their respective material and personnel to the NSF-designated points of entry for transport to McMurdo. Any cost for NSF-provided transportation of EUMETSAT material or personnel will be paid by NOAA to NSF and will then be reimbursed by EUMETSAT on an annual basis. Procedures for these activities, their planning, and their reimbursement will be documented in the PIP.

6.5 Costs for telecommunications and related services provided by third parties for the exchange of data between the Parties, if required, will be borne by the Party receiving the data and services unless otherwise agreed.

6.6 Costs for the EUMETSAT-apportioned share of bandwidth necessary for Data Routing of EUMETSAT data from McMurdo shall be reimbursed to NOAA on an annual basis. Procedures for these reimbursements, their planning, and their execution will be documented in the PIP.

Article 7
TECHNICAL AND PLANNING COORDINATION

The Parties shall provide to each other:

- Information on each other's end user requirements;
- Information regarding launches and deployment for Metop-SG, JPSS, DMSP, the DMSP follow-on series, as appropriate ;
- Technical information documents that support the respective design, development, build, integration, test, and operations phases;
- Information on and operational support related to de-orbiting and end-of-life issues;
- Information and support related to ground systems design, development, integration, test, pre-operation demonstrations, operations, logistics, maintenance and sustainment;
- Information on scientific matters;
- Information on the Parties' interactions with international bodies, users, and conference participation;
- Information for cost reimbursement purposes, property management, configuration management and any budgetary issues; and
- Information on third party data access and on third party missions.

Article 8
CONFIGURED BASELINE DOCUMENTATION SET

8.1 The Parties shall agree on a set of documents that shall define the baseline for the activities performed under this Agreement. The set of documents shall be maintained under configuration control, and shall be termed the "JPS Coordinated Baseline Documentation Set" (CBDS). The details of the CBDS shall be agreed in the Programme Implementation Plan (PIP) referred to in Article 11.2 of this Agreement.

8.2 The control of the CBDS shall be a coordinated activity of EUMETSAT and NOAA according to their respective roles and responsibilities, to ensure an effective and efficient management of all changes affecting the JPS baseline.

8.3 The management of changes to the CBDS shall be addressed in the PIP.

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Article 9
RELEASE OF INFORMATION

9.1 EXCHANGE OF TECHNICAL DATA, GOODS AND SOFTWARE

9.1.1 The Parties shall exchange interface, integration and safety data (excluding detailed design, manufacturing, and processing data and associated software) relevant to ground segment elements without restrictions as to use or disclosure.

9.1.2 Furthermore, each Party shall transfer to the other Party those technical data, software and goods necessary to fulfill the responsibilities of the transferring party under this Agreement, including those described in Annex 1 to this Agreement, subject to the terms and conditions set forth in this Article.

9.1.3 The Parties shall cooperatively seek to facilitate the exchange of relevant export controlled and/or proprietary information, including Intellectual Property, such that the technical work by EUMETSAT, NOAA, their contractors and partners under this Agreement is not compromised or delayed.

9.1.4 The Parties shall abide by the terms of any notice or identification specified in this Article and shall protect the marked or identified technical data, software and goods from unauthorized use or disclosure. To this end, each Party shall take all necessary steps, including ensuring appropriate contractual conditions in their contracts and subcontracts, to ensure that contractors and subcontractors protect the marked or identified technical data, software and goods. The Parties are under no obligation to protect any unmarked or unidentified technical data, software or goods.

9.2 EXCHANGE OF PROPRIETARY TECHNICAL DATA AND SOFTWARE

If a Party transfers technical data or software, other than those specified in Article 9.1.2 above, that are proprietary, and for which protection is to be maintained, that Party shall mark such data or software with a notice indicating that they shall not be used or disclosed by the receiving Party except for the purposes of fulfilling the receiving Party's responsibilities under this Agreement. The receiving Party may share technical data and software with its consultants and support contractors that are bound by an obligation of confidentiality. In addition, the receiving Party may share technical data and software with third parties, including prime contractors and their subcontractors, unless the furnishing Party informs the receiving Party, in writing, that such information shall not be disclosed or retransferred.

9.3 EXCHANGE OF EXPORT CONTROLLED TECHNICAL DATA, GOODS AND SOFTWARE

9.3.1 If a Party transfers technical data, software, and goods that are to be protected for export control purposes, that Party shall mark with a notice, or otherwise specifically identify, such technical data, software or goods indicating that such technical data shall not be disclosed and that such data, software and goods shall not be used by the receiving Party and its contractors and subcontractors except for the purposes of fulfilling the receiving Party's responsibilities under this Agreement. This notice or identification shall also provide that such data and software shall not be disclosed, and that such data, software and goods shall not be transferred to any other entity without prior written permission of the furnishing Party.

9.3.2 Nothing in this Agreement requires the Parties to transfer technical data, software, and goods contrary to relevant laws relating to export controls.

9.4 RELEASE OF PUBLIC INFORMATION

Each Party may release to the public information of a general, non-technical nature regarding this Agreement and its implementation after ensuring, through consultation with the other Party when necessary, that this information is fairly and accurately represented.

Article 10
DATA POLICY

10.1 The Parties shall make available to each other all data collected by the JPS satellites referred to in Article 2.1 without any conditions as to the Parties' official duty use. Access to Copernicus Sentinel-5 data is however subject to Article 10.4 below.

10.2 The type of data to be exchanged and the mode of exchange, including any information security requirements for protecting data integrity and availability, shall be addressed in supplemental Implementing Arrangements and PIP, as applicable

10.3 All data from the U.S. instruments referred to in Articles 2.1.1 and 2.1.3 will be provided to other users in accordance with the U.S. full and open data policy.

10.4 All data from EUMETSAT instruments referred to in Article 2.1.2 will be provided to other users in accordance with the EUMETSAT data policy. Copernicus Sentinel-5 data will be provided in accordance with the Copernicus Data Policy.

10.5 EUMETSAT understands that NOAA, as an agency of the United States Government, is bound by the Antarctic Treaty and implementing U.S. law when providing global mission Data Reception capabilities at McMurdo Station for use by NOAA, DoD, and EUMETSAT pursuant to this Agreement. As such, the activities relating to Antarctica described in this Agreement are to be conducted consistent with the Antarctic Treaty; including Article I's preservation of Antarctica for peaceful purposes and Article III's

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promotion of international cooperation in scientific investigation, and implementing U.S. law.

10.6 The Parties will make available to each other all data from other relevant missions referred to in Article 2.2, subject to agreement with the system owner. Usage of the data itself will be subject to the data policies of the system owners.

10.7 The policy set out in this Article does not apply to the SARSAT and Argos DCS instruments.

Article 11
MANAGEMENT, COORDINATION AND CONSULTATION

11.1 MANAGEMENT AND CONSULTATION

11.1.1 While the Parties' JPS management structures remain independent, each Party shall consult as necessary with the other Party on any matter under its control that may affect the implementation of this Agreement.

11.1.2 The Parties shall organize joint meetings at least on a yearly basis, and whenever matters of mutual interest need to be discussed. Other national and international partners may be included in these meetings, when appropriate.

11.2 COORDINATION AND IMPLEMENTATION

11.2.1 The Parties shall jointly establish and maintain the necessary documents associated with the interfaces between NOAA and EUMETSAT activities.

In particular they shall develop and approve a Programme Implementation Plan (PIP) which defines, inter alia:

a) the points-of-contact and management structure;

b) details of ground segment architecture, deliverables, and delivery schedules for those equipment and facilities governed by this Agreement; and

c) the services and technical documents to be exchanged by the Parties, including those pertaining to instrument calibration and validation, spacecraft continuity of operations, scheduling protocols and prioritization, anomaly resolution, and JPS data.

In the event of inconsistency between the provisions of the PIP and the Agreement, the text of the Agreement shall prevail.

11.2.2 Each Party shall nominate a programme manager responsible for the implementation of its own programme and for ensuring close coordination between the NOAA and EUMETSAT responsibilities. The PIP shall be implemented and maintained by the programme managers who shall ensure that it is consistent with this Agreement.

11.2.3 To facilitate the necessary level of consultation and coordination, a Committee alternately chaired by the respective programme managers supported by appropriate representatives from EUMETSAT and NOAA shall review the implementation of this Agreement.

11.3 REVIEWS

The Parties shall provide each other support at system and ground segment reviews, when appropriate.

11.4 EXCHANGE OF REPRESENTATIVES

11.4.1 Each Party may select an individual to be located at the premises of the other Party to facilitate the cooperative relationship between the Parties.

11.4.2 The sending Party shall remain responsible for all employment aspects of its own representative. The receiving Party shall provide adequate office infrastructure and facilitate the issuance of any necessary visas and permits required by the representative of the other Party.

Article 12
LIABILITY

12.1 The Parties shall ensure that any agreement for the use of data resulting from this Agreement expressly provides that neither Party can guarantee the timeliness or suitability of these data for any purpose, and shall not be liable for any damage which may result from the use of such data or the defective operation of the systems described in this Agreement.

12.2 In the event of a claim arising out of the Liability Convention as a result of activities under this Agreement, the Parties shall consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim.

Article 13
TITLE AND RISK

Title and risk of loss and damage to supplies defined for the purposes of this Agreement to include hardware and software furnished to one Party by the other Party is retained by the providing Party. If a supply is lost or damaged while in the possession of other than the providing Party, the providing Party, in consultation with the other Party, shall determine whether the providing Party shall restore the supply, keeping in mind the operational nature of the JPS.

Article 14
SETTLEMENT OF DISPUTES

14.1 Any dispute in the interpretation or implementation of the terms of this Agreement that cannot be resolved by the programme managers shall be referred to the Director-General of EUMETSAT and the NOAA Assistant Administrator for Satellite and Information Services.

14.2 Any dispute in the interpretation or implementation of the terms of this Agreement that cannot be resolved by the Director-General of EUMETSAT and the NOAA Assistant Administrator may, upon agreement of the Parties, be submitted to conciliation, mediation, arbitration or other form of dispute resolution.

Article 15
TAXES AND CUSTOMS

Each Party shall facilitate customs clearance and freedom from import duties, taxes or similar charges for System-related equipment moving between the countries concerned. Further, each Party shall facilitate the issuance of any necessary visas and permits to personnel engaged in the activities related to this Agreement.

Article 16
ENTRY INTO FORCE, AMENDMENTS, TERMINATION, DURATION

16.1 This Agreement shall enter into force upon signature of both Parties and shall remain in force until the end of operation of the last satellite referred to in this Agreement.

16.2 The Agreement may be extended or amended by written agreement of the Parties.

16.3 In the event of, inter alia, major technical, schedule or funding difficulties and if despite all reasonable efforts the difficulties cannot be resolved, either Party may terminate the Agreement ensuring, however, that any major disadvantages for the other Party are considered. If a Party gives notice of termination, the Parties shall reach agreement as soon as possible concerning the terms and conditions of termination, with a view toward ensuring the orderly reorganization or termination of the JPS.

16.4 Termination of this Agreement shall not affect a Party's continuing obligation under Articles 9 (Release of Information), 10 (Data Policy) and 12 (Liability) unless otherwise agreed by the Parties.

IN WITNESS WHEREOF, the undersigned, being duly authorized, have signed this Agreement.

Done at Darmstadt, this 2nd day of December, 2015, in two originals in the English language.

FOR THE
UNITED STATES NATIONAL
OCEANIC AND ATMOSPHERIC
ADMINISTRATION:

Assistant Administrator
for Satellite and Information Services

FOR THE
EUROPEAN ORGANISATION FOR
THE EXPLOITATION OF
METEOROLOGICAL SATELLITES:

Director General

ANNEX 1
EXCHANGE OF TECHNICAL DATA, SOFTWARE, AND GOODS

The technical data, software, and goods intended to be exchanged by the Parties under this Agreement are as follows:

1) Technical specifications: Required by both NOAA and EUMETSAT to support the development of their respective systems, missions, and ground segments to receive, calibrate, process and distribute data, and to provide mutual operations support. This can include system concepts, architecture and concept of operations, general system, satellite, instrument and ground segment descriptions, specifications and characterization, space-to-ground and ground-to-ground interfaces documents and interconnect agreements, antenna patterns, data transmission characteristics, front end processors specifications, communications network specifications, data and product formats, and navigation and geo-location information.

2) JPS Instrument Information:
   - General instrument descriptions
   - Instrument spectral response functions for all spectral channels
   - Antenna patterns and antenna correction factors for micro-wave instruments
   - Instrument noise characterisation (noise variances, noise covariance matrices)

3) JPS Direct Read-out Information:
   - Data transmission characteristics (frequency, modulation, polarisation, transmitter power)
   - Data formats
   - Decryption information (if applicable)
   - Instrument characterisation allowing calibration of measurements
     - o Calibration model
     - o Calibration coefficients
     - o Prototype software for calibration of sensor data
   - Instrument characterisation allowing navigation of measurements (orbital elements, attitude parameters, scan/sampling parameters, prototype sensor navigation software)
   - Software and Goods: May include software, equipment, parts, subsystems, tools, and facilities

4) Schedules: Required by both NOAA and EUMETSAT to ensure mission requirements are met on schedule and/or to alert each other of potential data gaps so mitigations may be addressed.

5) Program Planning Documents: Required by both NOAA and EUMETSAT to maintain essential coordination of two separate but dependent programs.

6) Program Correspondence: Required by both NOAA and EUMETSAT to maintain essential program management and technical coordination.

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7) Other Related Information: As needed to maintain necessary coordination and effective cost and risk management of complex programs.

8) Respective security policy directives and procedures as required for JPS implementation.

Both Parties consider that the items referenced in this Annex are either non-sensitive or are releasable from an export control point of view.