

Implementing Arrangement

Between

The United States

**National Oceanic and Atmospheric Administration,
Department of Commerce**

And

The Japan Meteorological Agency

On

**The Backup of Operational Geostationary
Meteorological Satellite Systems**

The United States National Oceanic and Atmospheric Administration, Department of Commerce (hereinafter called NOAA), and the Japan Meteorological Agency (hereinafter called JMA), (hereinafter referred to as the "Parties");

RECOGNIZING the successful working relationship NOAA and JMA have had in the past;

REALIZING the importance of geostationary meteorological satellites for accurate, real-time weather prediction worldwide, and that the United States and Japan operate geostationary meteorological satellites;

UNDERSTANDING that worldwide environmental satellite data are essential in global weather forecasting and in environmental monitoring;

REALIZING that both the United States and Japan have requirements for geostationary satellite data for weather prediction;

RECOGNIZING the benefits to society, including the meteorological, climate science research and other scientific communities in having continued rapid access to data from geostationary missions;

NOTING the World Meteorological Organization's (WMO) requirement for continuity in the provision of meteorological satellite data and the corresponding requirement for global contingency planning;

RECOGNIZING specifically the need to mitigate the risk of losing continuity of global environmental measurements from operational environmental remote sensing instruments in geostationary orbit;

CONSIDERING the previous cooperation between NOAA and JMA to successfully backup JMA's Geostationary Meteorological Satellite-5 (GMS-5) with NOAA's Geostationary Operational Environmental Satellite-9 (GOES-9) pursuant to the government-to-government agreement effected by an Exchange of Notes on May 10, 2002;

RECOGNIZING that space-based Earth remote sensing missions have inherent risk despite responsible planning and implementation;

RECOGNIZING an opportunity for NOAA and JMA to work together not only for the benefit of the two countries, but for the benefit of the international community in providing continuity of geostationary satellite data for use in weather prediction, natural disaster mitigation, hazard relief, and climate monitoring;

PURSUANT to paragraph 2 of the agreement effected by an Exchange of Notes between the Government of the United States of America and the Government of Japan on the

long-term mutual geostationary satellite backup, dated February 18, 2005 (hereinafter called the Exchange of Notes);

HAVE AGREED AS FOLLOWS:

Article 1 – Purpose

- 1.1 This Implementing Arrangement defines the terms of long-term cooperation between NOAA and JMA in establishing geostationary meteorological satellite contingency plans. The goal of this cooperation is to reduce the risk to the Parties of losing system coverage while minimizing the cost to the Parties of providing emergency back-up coverage. The cooperation under this Implementing Arrangement is expected to improve overall geostationary meteorological satellite system reliability, mitigate risks of loss of coverage and reduce the cost of ensuring adequately robust programs.
- 1.2 Cooperation under this Implementing Arrangement is not intended to reduce the respective capabilities of the Parties as provided by the configurations described in Article 4. Neither Party intends through this Implementing Arrangement to increase or decrease its responsibility for maintaining geostationary satellites over its respective geographic area of interest.
- 1.3 This Implementing Arrangement addresses joint contingency planning for NOAA Geostationary Operational Environmental Satellites and follow-on geostationary meteorological satellites (hereinafter collectively referred to as “GOES”) and JMA's geostationary meteorological satellites, such as Multi-functional Transport Satellites with meteorological observation function and follow-on geostationary satellites with meteorological observation function (hereinafter collectively referred to as “GMS”).

Article 2 – International Cooperation

- 2.1 The Parties agree that each may also seek opportunities, with other meteorological satellite operators for cooperation in contingency planning that is consistent with the cooperation under this Implementing Arrangement.
- 2.2 The Parties acknowledge that NOAA has existing obligations to the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT) under an Agreement entered into by NOAA and EUMETSAT on August 20, 1993. In the event of a conflict between NOAA's Agreement with EUMETSAT and this Implementing Arrangement, NOAA's Agreement with EUMETSAT shall prevail.
- 2.3 In the event of a conflict between this Implementing Arrangement and NOAA's Agreement with EUMETSAT, the Parties agree to consult with each other and shall endeavor to consult with EUMETSAT regarding the conflict, with a view to minimizing the effects of the conflict.

Article 3 – General Provisions and Definitions

- 3.1 Each Party shall arrange for funding to discharge its responsibilities in accordance with its respective funding procedures. All cooperation under this Implementing Arrangement is subject to the availability of appropriated funds and each party's national laws.
- 3.2 For the purposes of this Implementing Arrangement, the term "operable" means capable of generating geo-located image data and satellite imagery-derived winds.
- 3.3 For the purpose of this Implementing Arrangement, a satellite will be deemed to have failed if the satellite is not operable in the sense of Article 3.2.

Article 4 – Baseline System

- 4.1 NOAA and JMA each maintains meteorological satellites in geostationary orbit to meet their respective mission requirements. For purposes of this Implementing Arrangement, NOAA's baseline configuration consists of two operable GOES positioned at 75° and 135° West longitude as well as an operable on-orbit spare GOES. For purposes of this Implementing Arrangement, JMA's baseline configuration consists of two operable GMS, one positioned at 140° East, and one that is not required for any other mission, and therefore available for backup.
- 4.2 NOAA's contingency plan in the event of a launch or on-orbit GOES failure is to move operations to its on-orbit spare satellite. JMA's contingency plan calls for switching operations to its on-orbit spare satellite.

Article 5 – Responsibilities

- 5.1 NOAA and JMA shall use best efforts to maintain their respective baseline systems as described in Article 4.
- 5.2 In case of a failure within the GMS or GOES baseline systems, the Parties shall confer to review the situation taking into account the probability of failure of a possible remaining satellite and the timing of the launch of a replacement satellite.
- 5.3 In the event that:
 - (a) an operable GMS fails,
 - (b) there is no other operable GMS in orbit,
 - (c) a GMS launch is not possible within the next four months, and
 - (d) at least three operable GOES are in orbit,then
 - 5.3.1 NOAA, upon a request from JMA, shall use best efforts to:
 - (a) Begin repositioning, within two months of the request from JMA, an operable GOES westward to a position to ensure Western Pacific coverage.

- a. NOAA shall not be required to reposition the satellite westward further than 155° East longitude from its original location.
 - b. NOAA may, at its discretion, reposition it further westward if, *inter alia*, available ground and space equipment and communication services permit, without additional cost to NOAA.
- (b) Provide additional products and services as may be mutually agreed to by the Parties.

and

5.3.2 JMA shall use best efforts to:

- (a) Replace its own failed satellite at the earliest possible opportunity.
- (b) Provide additional products and services as may be mutually agreed to by the Parties.

5.4 In the event that:

- (a) an operable GOES fails,
- (b) there is no other operable spare GOES in orbit, meaning the U.S. is reduced to a 1-GOES system,
- (c) a GOES launch is not possible within the next four months, and
- (d) at least two operable GMS are in orbit, one of which is not required for any other mission, and therefore available for backup,

then

5.4.1 JMA, upon a request from NOAA, shall use best efforts to:

- (a) Begin repositioning, within two months of the request from NOAA, an operable GMS eastward to a position to ensure U.S. coverage.
 - a. JMA shall not be required to reposition the satellite eastward further than 160 ° West longitude from its original location.
 - b. JMA may, at its discretion, reposition it further eastward if, *inter alia*, available ground and space equipment and communication services permit, without additional cost to JMA.
- (b) Provide additional products and services as may be mutually agreed to by the Parties.

and

5.4.2 NOAA shall use best efforts to:

- (a) Replace its own failed satellite at the earliest possible opportunity.
- (b) Provide additional products and services as may be mutually agreed to by the Parties.

5.5 Where JMA has one operable satellite in orbit or NOAA has two operable satellites in orbit but all other conditions of Article 5.3 or 5.4 are fulfilled, support as described in Article 5.3 and 5.4 may be given if the Parties determine that failure of

this remaining satellite is imminent. In other cases, partial or staged repositioning might be implemented as described in Article 5.6.

- 5.6 At the request of either Party, the Parties shall consult with a view to providing additional back-up coverage provided for in Articles 5.3, and 5.4, including a partial or staged repositioning of an operable satellite.
- 5.7 In the event of a national emergency affecting either party, the Parties shall consult in accordance with the Exchange of Notes.
- 5.8 The backup coverage provided for in Articles 5.3, 5.4, and 5.6 shall be limited to a period not to exceed one year for each incident of backup.
- 5.9 To facilitate this Implementing Arrangement, NOAA shall continue to maintain its backup facility at the Fairbanks Command and Data Acquisition Station (FCDAS) in Fairbanks, Alaska.

Article 6 – Management and Coordination

- 6.1 Each Party shall have jurisdiction and control over its respective satellite system.
- 6.2 While the Parties' management structures remain independent, each Party agrees to consult with the other Party on any matters under its control which may affect the implementation of this Implementing Arrangement. These matters may include launch schedules and contingency plans for emergency backup, information on the status of their respective satellites in orbit and under development, and technical measures such as the use of common approaches and standards, to facilitate back-up.
- 6.3 Each Party shall designate a Coordinator who shall serve as a primary point of contact with the other Party for activities under this Implementing Arrangement.

Article 7 – Information Transfer and Release

- 7.1 **Technical Information:**
The technical information that will be necessary for JMA to receive data from the GOES does not involve restricted information and, as such, will be available to JMA. The technical information that will be necessary for NOAA to receive data from GMS does not involve restricted information and, as such, will be available to NOAA.
- 7.2 **Public Information:**
Each Party may release to the public information regarding this Implementing Arrangement and its implementation, after appropriate consultation with the other Party when necessary, to ensure that such information is fairly and accurately represented. Such information may also be made available to international bodies

such as the World Meteorological Organization (WMO), United Nations Environment Program (UNEP), and the Intergovernmental Oceanographic Commission (IOC) as well as the Coordination Group for Meteorological Satellites (CGMS) and the Committee on Earth Observation Satellites (CEOS).

- 7.3 All activities, including those involving restricted or export controlled information will be conducted in accordance with national export control, security, and other appropriate laws, regulations and policies.

Article 8 – Data Policy

All data generated by GOES or GMS shall be distributed by the Parties in a full and open manner, without restrictions on use by third parties.

Article 9 – Settlement of Disputes

Any dispute concerning the interpretation or implementation of the terms of this Implementing Arrangement shall be referred to the Assistant Administrator for Satellite and Information Services of NOAA and the Director-General of JMA for resolution.

Article 10 – Taxes and Customs

Each Party shall facilitate, consistent with its national laws, customs clearance and exemption from import duties, taxes, or similar charges for any equipment related to this Implementing Arrangement entering the territory of its country. Further, each Party shall endeavor to arrange with appropriate governmental authorities the issuance of any necessary visas and permits to staff engaged in the activities related to this Implementing Arrangement.

Article 11 – Entry into Force, Amendments, Termination, and Duration

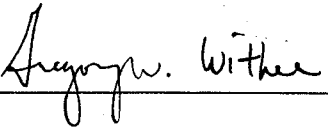
- 11.1 This Implementing Arrangement shall enter into force once all three of the following conditions have been fulfilled:
- a. Signature of the Implementing Arrangement by both Parties.
 - b. Written notification to NOAA by JMA of the establishment of a baseline system with two operable GMS one of which is not required for any other mission, and therefore available for backup and confirmation that JMA is maintaining its baseline system.
 - c. Written notification to JMA by NOAA that it is maintaining its baseline system of two operational GOES and one operable backup GOES in orbit.
- 11.2 This Implementing Arrangement may be amended by written agreement of the Parties and shall remain in force unless terminated in accordance with Article 11.3, provided the Exchange of Notes remains in force.

11.3 Either Party may terminate this Implementing Arrangement after giving not less than five years notice to the other Party.

In WITNESS WHEREOF, the undersigned, being duly authorized, have signed this Implementing Arrangement

Done at Tokyo, this 23rd day of February, 2005, in duplicate, in the English language.

FOR THE
UNITED STATES
NATIONAL
OCEANIC AND ATMOSPHERIC
ADMINISTRATION, DEPARTMENT
OF COMMERCE:



FOR THE
JAPAN
METEOROLOGICAL
AGENCY: