

## **REGIONAL CONTINGENCY PLANS**

*(Submitted by WMO)*

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### **Summary and purpose of document**

To provide CGMS Members with a copy of the EUMETSAT-NOAA/NESDIS Agreement on Back-up of Operational Geostationary Meteorological Satellite Systems.

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### **ACTION PROPOSED**

CGMS Members to note the Agreement in preparing documentation for discussion at CGMS XXIX within the CGMS Working Group on Contingency Planning.

**Appendix:** Agreement between EUMETSAT and NOAA/NESDIS for the Back-up of Operational Geostationary Meteorological Satellite Systems

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## **DISCUSSION**

The Appendix contains a copy of the Agreement between EUMETSAT and NOAA/NESDIS for the Back-up of Operational Geostationary Meteorological Satellite Systems. It is provided for information and guidance to CGMS Members as they prepare documentation as suggested in WMO WP-5 on Global Contingency Planning.

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# EUMETSAT

EUROPEAN ORGANISATION FOR THE EXPLOITATION OF METEOROLOGICAL SATELLITES  
ORGANISATION EUROPEENNE POUR L'EXPLOITATION DE SATELLITES METEOROLOGIQUES

EUMETSAT • Postfach 10 05 55 • D-64205 Darmstadt

Mr Robert S Winokur  
Assistant Administrator for Satellite and Information Services  
NOAA/NESDIS  
U.S. Department of Commerce  
Washington  
D.C. 20233

Your reference  
Votre référence

Your letter dated  
Votre lettre du

Our reference  
Notre référence

Darmstadt

EUM/SGC/sh  
C960375

19 March 1996

*forb*

Dear Mr Winokur

I am referring to the Agreement between NOAA and EUMETSAT on Back-up of Operational Geostationary Meteorological Satellite Systems, signed in Washington on 20 August 1993 and to your letter dated 1 March 1996 confirming that the NOAA baseline configuration is fully re-established.

I am pleased to confirm that EUMETSAT has established a EUMETSAT-operated ground system, which has been operational since 15 November 1995.

In addition, I confirm that EUMETSAT is maintaining its baseline system with one operational satellite operated at 0° longitude (Meteosat 5, launched in 1991) and one operable spare satellite in orbit (Meteosat 6, launched in 1993).

I am therefore happy to agree that this letter, together with your letter dated 1 March 1996, enter the Back-up Agreement into force, and I suggest that the date of this letter is considered as the date of formal entry into force of the Agreement.

Looking forward to a continued fruitful cooperation, I remain,

Yours sincerely

ASSISTANT ADMINISTRATOR  
FOR SATELLITE &  
INFORMATION SERVICES

APR - 4 1996

RECEIVED

Dr Tillmann Mohr  
Director



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL ENVIRONMENTAL SATELLITE DATA  
AND INFORMATION SERVICE  
Washington, D.C. 20233

MAR 1 1996

Dr. Tillmann Mohr  
Director, EUMETSAT  
Am Kavalleriesand 31  
D-64295 Darmstadt  
Germany

*TILLMANN*  
Dear Dr. Mohr:

I am writing regarding an action from our annual bilateral (1995) meeting concerning the Agreement on Backup of Operational Geostationary Meteorological Satellites (enclosed).

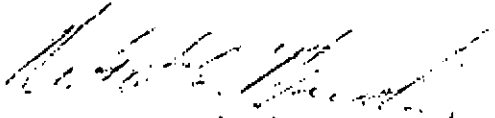
As you know, the Agreement enters into force once all three of the following conditions occur:

- 1) signature of the Agreement (August 20, 1993),
- 2) written notification of the re-establishment of the NOAA two-GOES satellite baseline (this letter), and
- 3) your written notification of the establishment of a EUMETSAT-operated ground system and confirmation of the operational status of METEOSAT (plus an on-orbit spare).

GOES-8 has been operational since May 1995 and is positioned at 75 degrees West longitude. GOES-9 post-launch systems and operations testing were completed in January 1996 and is now operational at 135 degrees West longitude. The NOAA baseline configuration is fully re-established.

I propose that this letter, together with your reply confirming the establishment of the EUMETSAT METEOSAT ground system and the operational status of the METEOSAT program, enter the Backup Agreement into force.

Sincerely,

  
Robert S. Winokur  
Assistant Administrator for Satellite  
and Information Services

Enclosure





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**BACK-UP AGREEMENT**



**AGREEMENT**

**BETWEEN THE UNITED STATES NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION**

**AND**

**THE EUROPEAN ORGANISATION FOR THE EXPLOITATION OF  
METEOROLOGICAL SATELLITES**

**ON**

**BACK-UP OF OPERATIONAL GEOSTATIONARY  
METEOROLOGICAL SATELLITE SYSTEMS**



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**BACK-UP AGREEMENT****PREAMBLE**

The United States National Oceanic and Atmospheric Administration (hereinafter referred to as "NOAA"),

and

The European Organisation for the Exploitation of Meteorological Satellites, established by the Convention opened for signature in Geneva on 24 May 1983 and entered into force on 19 June 1986 (hereinafter referred to as "EUMETSAT"),

**RECALLING** that NOAA and EUMETSAT have enjoyed long-standing and fruitful cooperation in Earth observation for meteorological purposes, witnessed by their cooperation in the development and operation of geostationary meteorological satellites,

**NOTING** that environmental satellite data are essential in global weather forecasting, and in research on climate change, environmental monitoring and in other sectors of the global Earth observation and science user communities,

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

**RECOGNIZING** the benefits to the meteorological, climate change research, and other scientific and applications communities in having continued rapid access to data of these remote sensing missions,

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

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



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CONSIDERING that from 1985 to 1988, NOAA repositioned the Geostationary Operational Environmental Satellite (GOES) GOES-4 to fill a gap over Europe created by the partial loss in service of METEOSAT 2,

CONSIDERING that beginning in 1991, EUMETSAT together with the European Space Agency repositioned the METEOSAT 3 satellite to back-up the aging GOES-7 in providing Atlantic ocean coverage, and to provide coverage over the United States if GOES-7 fails before a replacement can be launched and placed into operation,

RECOGNIZING that these difficulties demonstrate that despite a relatively conservative satellite delivery schedule, a robust launch policy, and adequate funding, launch and premature satellite or instrument failures and satellite development delays can threaten continuity of coverage,

**HAVE AGREED AS FOLLOWS:**





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**BACK-UP AGREEMENT****Article 1  
PURPOSE**

- 1.1 This Agreement defines the terms of enhanced long-term cooperation between NOAA and EUMETSAT, collectively referred to in this Agreement as the Parties, in establishing geostationary meteorological satellite contingency plans. The goal of this cooperation is to reduce the risk to both Parties of losing system coverage while minimizing the cost to either Party of providing emergency back-up coverage to reduce this risk. The cooperation under this Agreement is expected to improve overall geostationary meteorological satellite system reliability, mitigate risks of loss of coverage, and reduce the cost of ensuring an adequately robust program.
- 1.2 Cooperation under this Agreement is not intended to reduce the respective capabilities of the Parties as provided by the configurations described in Article 3. Neither Party intends through this agreement to increase or decrease its responsibility for maintaining geostationary satellites over its respective geographic area of interest.

**Article 2  
SCOPE**

- 2.1 This Agreement addresses joint contingency planning for the NOAA GOES satellite series and the EUMETSAT METEOSAT satellite series.
- 2.2 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 agreement.

**Article 3  
BASELINE SYSTEM**

- 3.1 EUMETSAT and NOAA maintain meteorological satellites in geostationary orbit to meet their respective forecast and warning requirements. NOAA's baseline configuration consists of two operational GOES satellites operated at 75° and 135° West longitude. EUMETSAT's baseline configuration consists of one operational METEOSAT satellite operated at 0° longitude.



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- 3.2 NOAA normally maintains the capability to control and exploit two GOES satellites, as well as some capability to perform the two-GOES functions using more than two satellites, if necessary. EUMETSAT normally maintains the capability to control and exploit a single METEOSAT satellite, as well as some capability to perform the required missions using two satellites, if necessary.
- 3.3 NOAA normally launches a replacement GOES when the oldest of the two operational GOES reaches the end of its nominal life (5 years). EUMETSAT normally has an operable spare satellite in orbit at all times.
- 3.4 NOAA's contingency plan in the event of launch or in-orbit GOES failure is to temporarily reduce its operational in-orbit configuration to a single GOES moved seasonally between 98° and 108° West longitude. In the event that this satellite is short of fuel it would be located at 108° longitude until a two-GOES system is restored. EUMETSAT's contingency plan for METEOSAT is to switch operations to the in-orbit spare.

**Article 4**  
**GENERAL PROVISIONS AND DEFINITIONS**

- 4.1 The cooperation under this Agreement shall be based on reciprocity. The Parties shall jointly seek to balance their respective contributions over time.
- 4.2 There shall be no exchange of funds between NOAA and EUMETSAT under this Agreement. Each Party shall arrange for funding to discharge its responsibilities in accordance with its respective funding procedures. All cooperation under this Agreement is subject to the availability of appropriated funds.
- 4.3 The Parties shall use their best efforts to carry out their respective responsibilities under this Agreement.
- 4.4 For the purposes of this Agreement, the term "exploit" means to generate gridded image data and satellite imagery derived winds.
- 4.5 For the purposes of this Agreement, a satellite will be deemed to have failed if the satellite cannot be exploited in the sense of Article 4.4. A satellite is considered operable if it has not failed. An operable satellite that is generating the products defined in Article 4.4 as an element of a Party's baseline configuration is an operational satellite.



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**BACK-UP AGREEMENT****Article 5  
RESPONSIBILITIES**

- 5.1 EUMETSAT and NOAA agree to:
- 5.1.1 maintain their respective baseline systems as described in Article 3,
  - 5.1.2 strive to replace within 18 months their own failed satellite giving rise to an emergency situation as described in Articles 5.3, 5.4 and 5.5,
  - 5.1.3 support each other by repositioning, operating and exploiting satellites in accordance with Articles 5.3, 5.4, 5.5 and 5.6,
  - 5.1.4 provide each other during the emergency situations discussed in this Article such additional products and services as may be agreed.
- 5.2 In case of failure of a METEOSAT or GOES being part of the baseline system, the Parties shall confer to review the situation taking into account the probability of failure of a possible remaining satellite and the expected launch of a replacement satellite.
- 5.3 NOAA agrees to reposition, within one month of a request from EUMETSAT, an operable GOES eastward to a position to ensure European coverage if:
- the operational METEOSAT fails, and
  - there is no other operable METEOSAT in orbit,
  - a METEOSAT launch is not possible within the next 4 months, and
  - at least two operable GOES are in orbit.
- The repositioning shall be limited to 5° West longitude. Repositioning further east may be considered if available ground and space equipment and communication services permit, without additional cost to NOAA.
- 5.4 EUMETSAT agrees to reposition, within one month of a request from NOAA, an operable METEOSAT westward to a position to ensure U.S. coverage if:
- one operational GOES fails, and
  - there is no other operable GOES in orbit,
  - a GOES launch is not possible within the next 4 months, and
  - at least two operable METEOSATs are in orbit.



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The repositioning shall be limited to 50° West longitude. Repositioning further west may be considered if available ground and space equipment and communication services permit, without additional cost to EUMETSAT.

- 5.5 Where a Party has one operable satellite in orbit but all other conditions of Articles 5.3 or 5.4 are fulfilled, support as described in Articles 5.3 and 5.4 shall 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 to that provided in Articles 5.3, 5.4 and 5.5, including a partial or staged repositioning of an operable satellite.
- 5.7 To facilitate emergency back-up under this agreement, EUMETSAT shall enhance its baseline system as may be necessary to be in a position to control and exploit an operable METEOSAT spare even while being repositioned.
- 5.8 To facilitate emergency back-up under this agreement, NOAA shall enhance its baseline system as may be necessary to be in a position to control and exploit an operable GOES satellite even while being repositioned.

**Article 6  
MANAGEMENT AND COORDINATION**

- 6.1 Each Party shall control and have jurisdiction 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 Agreement. These matters may include coordination of launch schedules and contingency plans for emergency back-up, information on the status of their respective satellites in orbit and under development, technical measures such as the use of common approaches and standards, to facilitate back-up. To this end, the Parties shall meet at least once per year.
- 6.3 Each Party shall designate a Coordinator who shall serve as a single point of contact with the other Party for activities under this Agreement.



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**BACK-UP AGREEMENT****Article 7  
INFORMATION TRANSFER AND RELEASE****7.1 Technical Information:**

The technical data and information that will be necessary for EUMETSAT to receive data from the GOES do not involve restricted information and, as such, will be available to EUMETSAT.

The technical data and information that will be necessary for NOAA to receive data from the METEOSAT will be available to NOAA. However, such information may be subject to confidentiality with regard to uses for other purposes.

**7.2 Public Information:**

Each Party may release to the public information regarding this Agreement 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 relevant 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).

**Article 8  
DATA POLICY**

To ensure continuity of services provided by both Parties during the emergency situations described in this Agreement, all data from the supporting satellite may be distributed by both Parties in accordance with their respective normal data distribution practices.

**Article 9  
LIABILITY**

- 9.1 EUMETSAT and NOAA agree that neither Party shall make claim or bring action against the other (including the other's employees, contractors or subcontractors or the employees of the other's contractors, or subcontractors) for injuries to or death of its own employees, contractors or subcontractors, or the employees of its contractors or subcontractors or for damages to or loss of its own property or that of its employees, contractors or subcontractors or the employees of the other's contractors or subcontractors arising out of or



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- connected with the activities of this agreement other than claims for damages caused by wilful misconduct.
- 9.2 Each Party shall extend the waiver of liability in Article 9.1 to its own contractors and sub-contractors by requiring them, by contract or otherwise, to waive all claims against the entities identified in Article 9.1.
- 9.3 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 the GOES or METEOSAT data for any purpose, and shall not be liable for any damage which may result from their use.
- 9.4 In the event of claims from third parties other than the ones covered in 9.1, 9.2 and 9.3 above, including claims arising from the Convention on the International Liability for Damage Caused by Space Objects of March 29, 1972, 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.
- 9.5 Nothing in this Article shall be construed to create the basis for a claim or suit where none would otherwise exist.

**Article 10  
SETTLEMENT OF DISPUTES**

- 10.1 Any dispute in the interpretation or implementation of the terms of this Agreement shall be referred to the Director of EUMETSAT and the Assistant Administrator for Satellite and Information Services of NOAA for settlement.
- 10.2 Any dispute which cannot be settled by the Parties may, upon agreement of the Parties, expressed on the U.S. side through diplomatic channels, be submitted to conciliation, mediation, arbitration or other form of dispute resolution.

**Article 11  
TAXES AND CUSTOMS**

Each Party shall take responsibility for matters related to customs clearance and import duties, taxes or similar charges for equipment related to this Agreement entering its territory. Further, each Party shall endeavour to arrange with appropriate governmental authorities the issuance of any necessary visas and permits to staff engaged in the activities related to this Agreement.



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Article 12  
ENTRY INTO FORCE, AMENDMENTS, TERMINATION, DURATION

- 12.1 This Agreement shall enter into force once all three of the following conditions have been established:
- a) signature of the Agreement by both Parties,
  - b) written notification to EUMETSAT by NOAA of the re-establishment of the NOAA baseline system with two operable GOES (beyond GOES-7) in orbit,
  - c) written notification to NOAA by EUMETSAT of the establishment of an EUMETSAT-operated ground system and the confirmation that EUMETSAT is maintaining its baseline system.

The objective of the conditions b) and c) above is to reflect the desire of the Parties to start the formal cooperation under this Agreement on an equal basis.

- 12.2 This Agreement may be amended by written agreement of the Parties and shall remain in force unless terminated in accordance with Article 12.3.
- 12.3 Either Party may terminate this Agreement after giving not less than 5 years written notice to the other Party.

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

DONE at Washington DC, this 20 day of August, 1993, in duplicate, in the English language.

FOR THE  
UNITED STATES NATIONAL  
OCEANIC AND ATMOSPHERIC  
ADMINISTRATION:

FOR THE  
EUROPEAN ORGANISATION FOR  
THE EXPLOITATION OF  
METEOROLOGICAL SATELLITES:

Diana H. Josephson

J. M. ...