2012 - 0128

Ministero degli Affari Esteri

MAE-SEDE-DGCE
236/P-0132873

NOTE VERBALE

The Ministry of Foreign Affairs of the Italian Republic presents its compliments to the Embassy of the United States of America and has the honour to refer to the Embassy's note dated May 30, 2004 (no protocol N. assigned) which reads as follows:

"The Embassy of the United States of America presents its compliments to the Ministry of Foreign Affairs of the Italian Republic and has thehonor to refer to recent discussions between representatives of the Government of The United States and the Government of Italy concerning the terms and conditions whereby cooperation on the Mars Advanced Radar for Subsurface andIonospheric Sounding (MARSIS) and the Planetary Fourier Spectrometer (PFS) instruments onboard the European Space Agency (ESA) 2003 Mars Express program (hereinafter referred to as "the Program") will be undertaken between the National Aeronautics and Space Administration (NASA) and the Italian Space Agency(ASI).

The Embassy proposes that cooperation between the two governments on this project shall be in accordance with the terms and conditions set forth in the attached Memorandum of Understanding concluded on (date) between NASA and ASI.

If the foregoing proposal is acceptable to the Government of Italy, the Embassy proposes that this note, including the enclosed Memorandum of Understanding, and the Ministry's note in reply shall constitute an agreement between the two Governments which shall enter into force on the date of the Ministry's reply and shall remain in force until the termination of the Memorandum of Understanding, in accordance with the terms thereof."

The Ministry of Foreign Affairs of the Italian Republic agrees on the Embassy's of the United States of America proposal, issued with the above mentioned note, and

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Ambasciata degli Stati Uniti
d'America
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Ministero degli Affari Esteri

fully shares the point that cooperation between the two Governments on this project shall be in accordance with the terms and conditions set forth in the above mentioned MoU.

As well, the Ministry of Foreign Affairs of the Italian Republic supports that the Embassy United States of America note, the Memorandum of Understanding and this note shall constitute an agreement between the two Governments which shall enter into force and remain in force in accordance with article 19 of the MoU.

The Ministry of Foreign Affairs of the Italian Republic takes this opportunity to renew to the Embassy of the United States of America the assurances of its highest consideration.

Roma, 30 MAR. 2005

MINISTERO DEGLI AFFARI ESTERI

IT0164
5/29/03
(per Tim: (all signatures we need)

MEMORANDUM OF UNDERSTANDING

BETWEEN THE

ITALIAN SPACE AGENCY

AND THE

UNITED STATES NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

CONCERNING COOPERATION ON THE

MARS ADVANCED RADAR FOR SUBSURFACE AND IONOSPHERIC SOUNDING (MARSIS) AND PLANETARY FOURIER SPECTROMETER (PFS),

TO BE FLOWN ON THE

EUROPEAN SPACE AGENCY'S 2003 MARS EXPRESS MISSION

The Italian Space Agency (hereinafter referred to as "ASI")

and

The United States National Aeronautics and Space Administration (hereinafter referred to as "NASA")

Individually hereinafter each referred to as "the Party" or collectively hereinafter referred to as "the Parties":

CONSIDERING that the European Space Agency (ESA) is developing the Mars Express mission to be launched in 2003;

CONSIDERING that NASA and ASI are interested in partnering on two scientific instruments that are a part of the payload selected by ESA for the Mars Express mission;

CONSIDERING that NASA is engaged in a vigorous, long-term Mars Exploration Program;

CONSIDERING that ASI is interested in joining with NASA as a participant on Mars exploration;

RECALLING the Letter of Agreement between NASA and ASI on general Mars Exploration Cooperation, signed on September 25, 2001;

RECOGNIZING that ESA's Mars Express mission will involve NASA and ASI, as well as organizations from many other nations;

HAVE AGREED as follows:

Article 1
Memorandum of Understanding Objectives and Scope

1.1 This Memorandum of Understanding (MOU) shall define the responsibilities of the Parties and the terms and conditions under which the cooperation between the Parties shall be conducted within the framework of the 2003 Mars Express mission.

1.2 This MOU is designed to facilitate cooperation between the Parties with respect to the 2003 Mars Express mission. It describes the managerial, technical, and operational interfaces between the Parties that are necessary to ensure continuation of and compatibility between their respective activities.

1.3 The primary activities addressed in this MOU concern the Parties' cooperation in providing instrumentation and supporting science investigations for the ESA-developed 2003 Mars Express mission. ESA's Mars Express mission consists of an orbiter and a lander. The Parties' collaboration as described in this MOU addresses:

- The Parties' development of the Mars Advanced Radar for Subsurface and Ionospheric Sounding (MARSIS) for the Mars Express orbiter and their support for the Italian Principal Investigator and U.S. Co-Principal Investigators, Italian and U.S. Investigators and Co-Investigators, and Participating Scientists;

- The Parties' support for U.S. and Italian Co-Investigators and Participating Scientists on ASI's Planetary Fourier Spectrometer (PFS) instrument; and

Article 2
Summary of Cooperation

2.1 In June 2003, ESA plans to launch the Mars Express spacecraft on a Soyuz-Fregat expendable launch vehicle from the Baikonur Cosmodrome, Kazakhstan. Based on a June 2003 launch, the spacecraft's arrival at Mars is scheduled for January 2004. The Mars Express orbiter will conduct seven investigations. The orbiter will carry six science instruments and conduct radio science investigations using its radio transponders. In addition, the spacecraft will carry and release a small lander named Beagle 2.

2.2 NASA and ASI will cooperate on two of the orbiter's seven scientific investigations. This cooperation involves the MARSIS and PFS, both with an Italian Principal Investigator. MARSIS will investigate subsurface structures and the Mars ionosphere using radar sounding. PFS will conduct infrared spectral analysis for atmospheric and surface studies. [The other five orbiter investigations are the: French Spectroscopic Investigation of the Characteristics of the Atmosphere of Mars (SPICAM) and Observatory of Mineralogy, Water, Ice and Activity (OMEGA); German High-Resolution Stereo Camera (HRSC); Swedish Analyzer of Space Plasmas and Energetic Atoms (ASPERA-3); and Mars Radio Science Experiment].

Article 3
NASA and ASI Responsibilities
Mars Advanced Radar for Subsurface and Ionospheric Sounding (MARSIS)

3.1 To implement the cooperation concerning MARSIS, NASA will use reasonable efforts to:

a. Provide and support the U.S. MARSIS Instrument Manager to manage development, integration, and testing of the entire MARSIS instrument.

b. Support the U.S. MARSIS Co-Principal Investigator, U.S. Co-Investigators, and U.S. Participating Scientists.

c. Lead MARSIS system design and engineering.

d. Provide the MARSIS radio-frequency subsystem (integrated transmitter, antenna, and receiver) that meets the Mars Express interface requirements as specified in the ESA/Astrium Payload Interface Document-A.

e. Guide experiment design to support MARSIS scientific goals by modeling the subsurface of Mars and by identifying potential crustal environments of aquifers, subsurface ices, and ice melt zones.

f. Support ASI in delivery of MARSIS to ESA and integration into the Mars Express orbiter.

g. Support ASI in mission planning and MARSIS operations for the Earth-to-Mars cruise and the Mars orbital phases of the Mars Express mission.

h. Conduct scientific analysis of MARSIS data as described in the NASA-ASI MARSIS Science Plan.

i. Participate in the publication of scientific papers based on MARSIS data.

j. Archive MARSIS data in the NASA Planetary Data System (PDS) in a PDS-compliant format, as described in ESA's Mars Express Data Archive Plan.

3.2 To implement the cooperation concerning MARSIS, ASI will use reasonable efforts to:

a. Provide and support the Italian MARSIS Deputy Instrument Manager.

b. Support the Italian MARSIS Principal Investigator, Italian Co-Investigators, and Italian Participating Scientists.

c. Provide the MARSIS Digital Electronics Subsystem that meets the Mars Express interface requirements as specified in the ESA/Astrium Payload Interface Document-A.

d. Lead overall MARSIS assembly, integration, and testing.

e. Deliver MARSIS to ESA and support MARSIS integration into the Mars Express orbiter.

f. Operate MARSIS during the Earth-to-Mars cruise and the Mars orbital phases of the Mars Express mission.

g. Conduct scientific analysis of MARSIS data as described in the NASA-ASI MARSIS Science Plan.

h. Generate scientific papers using MARSIS data.

i. Work with ESA to ensure that MARSIS data are delivered to the PDS in a PDS-compliant format, as described in ESA's Mars Express Data Archive Plan.

Article 4
NASA and ASI Responsibilities
Planetary Fourier Spectrometer

4.1 To implement the cooperation concerning Planetary Fourier Spectrometer (PFS), NASA will use reasonable efforts to ensure that the following responsibilities are met:

a. Support the U.S. PFS Co-Investigators.

b. Develop models to support various operational scenarios.

c. Provide advice on conducting atmospheric measurements using PFS.

d. Develop numerical models to assist in interpreting PFS atmospheric data.

e. Assist in the development of data processing and analysis algorithms and software.

f. Participate in PFS checkout during the Earth-to-Mars cruise phase.

g. Participate in the processing of PFS data to determine performance parameters.

h. Participate in the preparation and publication of PFS scientific papers, as appropriate.

i. Participate in the preparation of PFS data for archiving in the PDS in a PDS-compliant format, as described in ESA's Mars Express Data Archive Plan.

4.2 To implement the cooperation concerning PFS, ASI will make reasonable efforts to:

a. Design, fabricate, test, and deliver the PFS to ESA.

b. Operate the PFS during Earth-to-Mars cruise and in Mars' orbit.

c. Analyze PFS data.

d. Generate PFS scientific papers.

e. Work with ESA to ensure that PFS data are delivered to the PDS in a PDS-compliant format, as described in the ESA Mars Express Data Archive Plan.

Article 5
Rights in and Distribution of Scientific Data

5.1 Consistent with ESA data policy for the 2003 Mars Express mission, science data obtained by MARSIS and PFS investigators are to be released to the international scientific community after a period of no longer than 6 months. The 6-month period begins with the receipt by the Principal

Investigators of usable science data and any associated Mars Express orbiter data in a form suitable for analysis. At the end of this period, the scientific data will become publicly available as specified in 5.2 below.

5.2 MARSIS and PFS investigators will share data with other mission investigators, including Interdisciplinary Scientists, to enhance the scientific return from the mission under the procedures defined by ESA's Mars Express Data Archive Plan. Following the period defined in 5.1 above, all scientific and ancillary MARSIS and PFS data records will be deposited with NASA's National Space Science Data Center (NSSDC), or other suitable U.S. data depository such as the PDS, and in the ASI Science Data Center (ASDC).

5.3 Scientific results of MARSIS and PFS investigations will be made available to the scientific community through publication in appropriate journals or other established channels of communication. Such publications and reports will include a suitable acknowledgement of the services afforded by the Parties. Copies of all publications and reports will be placed in the NSSDC and in the ASDC. In the event such publications or reports are protected by copyright, the Parties will have a royalty-free right to reproduce, distribute, prepare derivative works of, and use the copyrighted works for their own purposes.

5.4 The Parties will have the right to use the data (processed and unprocessed) at any time, for support of their respective responsibilities but will not prejudice the mission investigators' first publication rights that are established in accordance with paragraph 5.1 above.

5.5 The Parties and their investigators will have immediate access to scientific data obtained by their respective investigations. The Parties will work to ensure that all investigators have access to other telemetered science and engineering data relevant to the calibration/validation of the respective investigations.

Article 6
Planetary Protection

6.1 For instruments to be delivered to ESA by ASI, ASI will provide NASA with planetary protection and contamination control requirements. ASI will lead development, finalization, and implementation of these procedures with NASA participation. ASI will designate a point of contact for discussions regarding planetary protection and contamination control implementation, and will consult the NASA Planetary Protection Officer as necessary.

6.2 The Parties will conform to the Committee on Space Research (COSPAR) - promulgated planetary protection guidelines for Mars missions as a baseline for orbiter hardware (Category III), as resolved under COSPAR Decision 1/94 (COSPAR Information Bulletin 131, 30, 1994).

Article 7
Program and Project Management

This Article describes general management and organizational responsibilities. Each Party is responsible for the management of its activities as identified in Articles 3 and 4.

ASI Headquarters (HQ)

7.1 The ASI Mars Express Project Office is responsible for overall management of ASI contributions to the Mars Express mission. ASI's Mars Express Project Office, headed by the ASI Mars Express Project Manager, and supported by an ASI Project Scientist, is responsible for MARSIS integration and delivery to ESA and PFS development and delivery to ESA.

7.2 ASI has established a Planetary Protection Committee chaired by the Planetary Protection Director and assisted by the Planetary Protection Executive. The Planetary Protection Committee prescribes planetary protection policies, plans, standards, and procedures to prevent forward and backward planetary contamination, and for monitoring their implementation and successful completion.

NASA Headquarters (HQ)

7.3 The NASA Mars Exploration Program Director is responsible for the overall Mars Exploration Program. The Mars Exploration Program Director approves the Mars Exploration Program, and any change thereto, and oversees all NASA and NASA-led Mars exploration robotic flight program activities. This individual is the formal programmatic liaison with ASI and point of contact for coordination with other U.S. Government agencies. The Mars Exploration Program Director is supported by mission-specific program executives at NASA Headquarters. In this role, the NASA Mars Express Program Executive is responsible for overall management of NASA's contributions to the Mars Express Project and is the primary point of contact for international discussions of project content, schedule, management, and deliverables that are unique to the Mars Express mission.

7.4 The NASA Mars Exploration Program Scientist is the primary point of contact for international discussions of science policy for the entire Mars Exploration Program. The Mars Exploration Program Scientist is supported by mission-specific program scientists at NASA Headquarters. In this role, the Mars Express Program Scientist acts as the primary point of contact for international discussions of science policy that is unique to the Mars Express mission.

7.5 The NASA Planetary Protection Officer prescribes planetary protection policies, plans, standards, and procedures to prevent forward and backward planetary contamination, and for monitoring their implementation and successful completion.

NASA's Jet Propulsion Laboratory

7.6 NASA has designated the Jet Propulsion Laboratory (JPL) to serve as the project office for project activities associated with the overall Mars Exploration Program. This office is part of the JPL Mars Program Directorate. A JPL Mars Express/NASA Project Manager is responsible for management in support of NASA's responsibilities as cited in Articles 3, 4, and 8. This Project Manager's responsibilities include the design, fabrication, testing, and assembly of NASA-provided hardware.

7.7 JPL has designated a Mars Chief Scientist to oversee all Mars science activities. The Mars Chief Scientist is supported by mission-specific project scientists. The designated Mars Express Project Scientist is assigned to oversee the NASA science activities associated with the Mars Express mission.

7.8 NASA has designated a MARSIS Instrument Manager at JPL. The MARSIS Instrument Manager will manage the development, integration, and testing of the NASA-supplied components of the MARSIS instrument.

Article 8
Program and Project Reviews and Flight Readiness Reviews

8.1 The Parties will participate in reviews and flight readiness activities as defined in the ESA Mars Express Project Plan. Participation generally will include: NASA participation with ASI in ESA reviews and ESA participation in ASI-NASA reviews. Participation also may include other relevant personnel and the Parties' technical experts as agreed to between the Parties. Each review will consider the results of previous relevant reviews.

8.2 The Parties' Mars Express Project Managers will develop an approval procedure to ensure adequate readiness for launch and other mission-critical events. These Managers also will develop a program and project review plan. The latter will include provision for the establishment of a Project Review Board with both Parties' participation at system-level reviews such as the system requirements review, preliminary design review, critical design review, test readiness review, and mission and flight readiness reviews. To the extent feasible, broad participation by the Parties in all design reviews will occur to ensure that the Parties' preeminent peer review personnel may participate.

8.3 Determination of the MARSIS hardware/software readiness for integration with the Mars Express orbiter will be based on a series of reviews defined by ESA. The MARSIS Italian Principal Investigator and the U.S. Co-Principal Investigator, in consultation with the NASA/JPL MARSIS Instrument Manager, will determine the readiness for integration of MARSIS and PFS hardware/software with the Mars Express orbiter.

Article 9
Transfer of Goods and Technical Data

The Parties are obligated to transfer only those technical data (including software) and goods necessary to fulfill their respective responsibilities under this MOU, in accordance with the following provisions:

9.1. Nothing in this Article requires the Parties to transfer goods or technical data contrary to national laws and regulations, including those relating to export control or control of classified information.

9.2. The transfer of technical data for the purpose of discharging the Parties' responsibilities with regard to interface, integration, and safety shall normally be made without restriction, except as provided in paragraph 9.1 above.

9.3. All transfers of goods and proprietary or export-controlled technical data are subject to the following provisions. In the event a Party or its related entity (e.g., contractor, subcontractor, grantee, cooperating entity) finds it necessary to transfer goods or to transfer proprietary or export-controlled technical data, for which protection is to be maintained, such goods shall be specifically identified and such proprietary or export-controlled technical data shall be marked. The identification for goods and the marking on proprietary or export-controlled technical data will indicate that the goods and proprietary or export-controlled technical data shall be used by the receiving Party or related entities only for the purposes of fulfilling the receiving Party's or related entity's responsibilities under this MOU, and that the identified goods and marked proprietary technical data or marked export-controlled technical data shall not be disclosed or retransferred to any other entity without the prior written permission of the furnishing Party or its related entity. The receiving Party or related entity shall abide by the terms of the notice and protect any such identified goods and marked proprietary technical data or marked export-controlled technical data from unauthorized use and disclosure. The Parties to this MOU will cause their related entities to be bound by the provisions of this Article related to use, disclosure, and retransfer of goods and marked technical data through contractual mechanisms or equivalent measures.

9.4. All goods exchanged in the performance of this MOU shall be used by the receiving Party or related entity exclusively for the purposes of this MOU. Upon completion of the activities under this MOU, the receiving Party or related entity shall return or, at the request of the furnishing Party or its related entity, otherwise dispose of all goods and marked proprietary technical data or marked export-controlled technical data provided under this MOU, as directed by the furnishing Party or related entity.

Article 10
Inventions and Patents

10.1 The intellectual property rights (e.g. inventions, designs, copyrights, trademarks, service marks, mask works, and trade secrets), on any element developed by or for each Party for the implementation of this MOU will be retained by that Party or its related entities (including the Parties' contractors or subcontractors).

10.2 Nothing in this MOU will be construed as granting or implying any rights to, or interest in, patents or inventions of the Parties or their related entities (including their contractors or subcontractors).

10.3 In the event that an invention is jointly made by the Parties, or their related entities (including their contractors or subcontractors) during the implementation of this MOU, the Parties will consult and agree as to the responsibilities and costs of actions to be taken to establish and maintain patent protection (in any country) for such invention and on the terms

and conditions of any license or other rights to be exchanged or granted by or between the Parties, taking their respective contributions into account.

Article 11
Public Information

11.1 The Parties will develop joint communications guidelines prior to launch to ensure a consistent and coordinated means of working with the media and general public regarding cooperative activities undertaken pursuant to this MOU by the Parties and/or all participants to the Mars Express mission. Each Party undertakes to coordinate with the other, in advance, those public information activities that relate to the other Party's responsibilities or performance in the Mars Express mission.

Article 12
Financial Arrangements

12.1 Each Party shall bear the costs of discharging its respective responsibilities under this MOU, including travel and subsistence of its own personnel and transportation of its own goods and equipment and associated documentation. The Parties' obligations hereunder are subject to their respective funding procedures and the availability of appropriated funds. Should either Party encounter budgetary problems in the course of its respective internal procedures that may affect the activities carried out under this MOU, that Party shall notify and consult with the other Party in a timely manner to minimize the negative impact of such problems on the cooperation.

Article 13
Customs Clearance and Ownership

13.1 In accordance with the laws and regulations governing the Parties, each Party shall facilitate free customs clearance and waiver of all applicable customs duties and taxes for equipment and related goods necessary for the implementation of this MOU. In the event that any customs duties or taxes of any kind are nonetheless levied on such equipment and related goods, such customs duties or taxes shall be borne by the Party of the country levying such customs duties or taxes. The Parties' obligation to ensure duty-free entry and exit of equipment and related goods is fully reciprocal.

13.2 Equipment provided by ASI pursuant to this MOU will remain the property of ASI. Equipment provided by NASA pursuant to this MOU will remain the property of NASA.

Article 14
Liability

14.1 The Parties agree that a comprehensive cross-waiver of liability between the Parties and their related entities will further participation in space exploration, use, and investment. The cross-waiver of liability will be broadly construed to achieve this objective. The terms of the cross-waiver are set out below.

14.2 As used in this Article:

a. The term "Party" means a signatory to this agreement;

b. The term "related entity" means:

(i) a contractor, subcontractor, or sponsored entity of a Party at any tier;
(ii) a user or customer of a Party at any tier;
(iii) a contractor or subcontractor of a user or customer or sponsored entity of a Party at any tier; or
(iv) scientific investigators.

The term "related entity" may also include another State or an agency or institution of another State, where such State, agency or institution is an entity as described in (i) through (iv) above or is otherwise involved in the activities undertaken pursuant to this agreement.

The terms "contractors" and "subcontractors" include suppliers of any kind.

c. The term "damage" means:

(i) bodily injury to, or other impairment of health of, or death of, any person;
(ii) damage to, loss of, or loss of use of any property;
(iii) loss of revenue or profits; or
(iv) other direct, indirect, or consequential damage;

d. The term "launch vehicle" means an object or any part thereof intended for launch, launched from Earth, or returning to Earth that carries payloads or persons, or both;

e. The term "payload" means all property to be flown or used on or in a launch vehicle; and

f. The term "Protected Space Operations" means all activities pursuant to this agreement, including launch vehicle activities and payload activities on Earth, in outer space, or in transit between Earth and outer space. "Protected Space Operations" begin at the signature of this agreement and ends when all activities done in implementation of this agreement are completed. It includes, but is not limited to:

(i) research, design, development, test, manufacture, assembly, integration, operation, or use of launch or transfer vehicles, payloads, or instruments, as well as related support equipment and facilities and services;

(ii) all activities related to ground support, test, training, simulation, or guidance and control equipment and related facilities or services.

The term "Protected Space Operations" excludes activities on Earth that are conducted on return from space to develop further a payload's product or process for use other than for the joint activity in question.

14.3.a Each Party agrees to a cross-waiver of liability pursuant to which each Party waives all claims against any of the entities or persons listed in subparagraphs (i) through (iii) below, based on damage arising out of Protected Space Operations. This cross-waiver will apply only if the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations. The cross-waiver will apply to any claims for damage, whatever the legal basis for such claims, including but not limited to delict and tort (including negligence of every degree and kind) and contract, against:

(i) the other Party;
(ii) a related entity of the other Party;
(iii) the employees of any of the entities identified in subparagraphs (i) and (ii) immediately above.

b. In addition, each Party will extend the cross-waiver of liability as set forth in subparagraph 14.3.a above to its own related entities by requiring them, by contract or otherwise, to agree to waive all claims against the entities or persons identified in subparagraphs 14.5.a (i) through 14.3.a (iii) above.

c. For avoidance of doubt, this cross-waiver of liability will be applicable to liability arising from the 1972 Convention on International Liability for Damage Caused by Space Objects, where the person, entity, or property causing the damage is involved in Protected Space Operations and the person, entity, or property damaged is damaged by virtue of its involvement in Protected Space Operations.

d. Notwithstanding the other provisions of this section, this cross-waiver of liability will not be applicable to:

(i) claims between a Party and its own related entity or between its own related entities;
(ii) claims made by a natural person, his/her estate, survivors, or subrogees for bodily injury, other impairment of health or death of such natural person;
(iii) claims for damage caused by willful misconduct;
(iv) intellectual property claims;
(v) claims for damage resulting from a failure of the Parties to extend the cross-waiver of liability as set forth in subparagraph 14.3.b or from a failure of the Parties to ensure that their related entities extend the cross-waiver of liability as set forth in subparagraph 14.3.b; or
(vi) contract claims between the Parties based on the express contractual provisions.

e. Nothing in this Article will be construed to create the basis for a claim or lawsuit where none would otherwise exist.

f. In the event of third-party claims for which the parties may be liable, the Parties will consult promptly to determine an appropriate and equitable apportionment of any potential liability and on the defense of any such claims.

Article 15
Registration - Jurisdiction and Control

15.1 ASI and NASA acknowledge that ESA, as the space agency responsible for the Mars Express mission, has previously agreed to register the Mars Express orbiter and Beagle 2 lander in accordance with the 1975 Convention on Registration of Objects Launched into Outer Space. ESA shall retain jurisdiction and control over the space objects that it registers.

Article 16
Mishap Investigation

16.1 In the case of a mishap or mission failure, the Parties agree to provide assistance to each other in the conduct of any investigation. In the case of activities that might result in the death of, or serious injury to persons, or substantial loss of, or damage to property as a result of activities under this MOU, the Parties shall establish a process for investigating each such mishap as part of their program/project implementation plans.

Article 17
Amendments

17.1 This MOU may be amended by written agreement of the Parties.

Article 18
Consultation and Settlement of Disputes

18.1 The Parties shall consult promptly with each other when events occur or matters arise that may result in a question of interpretation or implementation of the terms of this MOU.

18.2 In the case of a question of interpretation or implementation of the terms of this MOU, such question will be referred to the ASI Director of the Observation of the Universe and the NASA Associate Administrator for Space Science, or their designees. Should they fail to reach a solution, the question will be submitted to the ASI Legal Representative and NASA Administrator, or their designees, for settlement.

Article 19
Entry into Force, Duration, and Termination

19.1 This MOU shall enter into force following signature by the Parties and upon an exchange of diplomatic notes between the Governments of the United States and Italy incorporating its terms and conditions. It shall remain in force until December 31, 2008, unless extended by mutual written agreement or terminated in accordance with paragraph 19.2 below.

19.2 Either Party may terminate this MOU at any time by giving the other Party at least 12 months' written notice of its intent to terminate. Termination of this MOU shall not affect a Party's continuing obligations under Articles 5, Rights in and Distribution of Scientific Data; 9, Transfer of Goods and Technical Data; 10, Inventions and Patents; 13, Customs Clearance and Ownership; and 14, Liability.

Done in duplicate, in the English language.

At: Washington, DC

Date: 27 May 2003

For the
National Aeronautics and Space Administration

At: Rome, Italy

Date: 29 May 2003

For the
Italian Space Agency

AGENZIA SPAZIALE ITALIANA
IL PRESIDENTE
Prof. Sergio Vetrella