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Implementing Agreement Between the  
National Aeronautics and Space Administration  
of the United States of America and the  
Russian Space Agency of the Russian Federation on  
Human Space Flight Cooperation

PREAMBLE

The National Aeronautics and Space Administration (hereafter referred to as "NASA") and the Russian Space Agency (hereafter referred to as "RSA"), jointly referred to as "The Parties," have agreed to cooperate in the area of human space flight. This cooperative program consists of three inter-related projects: the flight of Russian cosmonauts on the U.S. Space Shuttle; the flight of U.S. astronauts on the Mir Space Station; and a joint mission involving the rendezvous and docking of the U.S. Space Shuttle with the Mir Space Station. These will be jointly referred to in the future as the "Shuttle-Mir Program."

The Parties have agreed as follows:

ARTICLE I: DESCRIPTION OF COOPERATION

1. The cooperation set forth in this Implementing Agreement will be undertaken in accordance with the Agreement Between the United States of America and the Russian Federation concerning Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes, of June 17, 1992 (hereinafter the June 17, 1992 Agreement).

2. An experienced cosmonaut will fly aboard the Space Shuttle on the STS-60 mission, which is currently scheduled for November 1993. The cosmonaut will be an integral member of the orbiter crew, and will be trained as a Mission Specialist on Shuttle systems, flight operations, and manifested payload procedures following existing Shuttle practices.

3. The RSA will nominate two cosmonauts, for approval by NASA as candidates for the STS-60 Space Shuttle mission. In accordance with Article IV, one of the two cosmonauts will be designated the Primary Russian-sponsored crewmember, with the other being designated as a backup crewmember. Both crewmembers will receive [2] Mission Specialist Astronaut training, until the time that the STS-60 crew begins dedicated mission training. From that point, the backup crewmember will receive as much training as practical. The two cosmonauts will be scheduled for arrival at the Johnson Space Center in Houston, Texas, in October, 1992. Their names, experience and personal history will be provided to NASA by the RSA prior to the initiation of training.

4. An experienced NASA astronaut will fly on the Mir Space Station as an integral long-duration crewmember (e.g., longer than 90 days) participating as an integral member of the crew in a variety of operations and experiments. The timing of this flight will be consistent with a Shuttle docking flight in 1994 or 1995. The astronaut will be flown to the Mir on a Soyuz transportation system. Special emphasis will be placed on science, particularly life science, as well as engineering and operational objectives. Astronaut and cosmonaut participation before, during and after the long-duration flight will be emphasized to accomplish all flight objectives.

5. NASA will nominate two astronauts for approval by RSA as candidates for a long-duration Mir mission (e.g., longer than 90 days) to occur in conjunction with the rendezvous and docking of the Space Shuttle with Mir. In accordance with Article IV, one of the two astronauts will be designated as the primary U.S.-sponsored crewmember, with the other being designated as the backup crewmember. Both crewmembers will receive full cosmonaut training with their cosmonaut crew.

The two astronauts will be scheduled to begin training no later than 12 months prior to the agreed upon flight date. They will be U.S. citizens, and their names, experience and personal history will be provided to RSA by NASA no later than one month prior to the initiation of training.

6. The Space Shuttle will rendezvous and dock with Mir in conjunction with the flight of the NASA astronaut aboard Mir. NASA will transport two Russian cosmonauts in the Shuttle to replace the two cosmonauts on board Mir. Training for these cosmonauts will be in accordance with Article V of this Implementing Agreement. Life sciences experiments involving the NASA astronaut and the two cosmonauts who have been on board the Mir for 90 days or more will be conducted while the Shuttle is docked to the Mir. The NASA astronaut and the two cosmonauts who have been on the Mir for 90 days or more will be returned in the Shuttle for continued postflight life sciences experiments.

7. As part of the technical discussions leading up to the Mir rendezvous, joint implementation teams will explore the use of the Androgynous Peripheral Docking Assembly developed by NPO Energiya, consistent with the June 17, 1992 Agreement and this Implementing Agreement. (If such used appears technically [3] feasible, NPO Energiya will enter into a separate contract with an American company to provide, modify or integrate this device or its derivatives with the Shuttle.)

8. Joint implementation teams will also consider exchange of Mir crewmembers, transportation of experimental and logistic equipment, and Extra Vehicular Activity (EVA), and will define the respective responsibilities of the Parties, consistent with the June 17, 1992 Agreement and this Implementing Agreement. The implementation teams will jointly develop a contingency plan which will cover procedures for investigation, consultation, and exchange of data in the event of a mishap which causes damage to equipment or injury to personnel during the conduct of the Shuttle-Mir Program.

9. Consistent with the June 17, 1992 Agreement, each Party will be responsible for funding its respective responsibilities, consistent with its domestic laws and regulations, and subject to the availability of appropriated funds. All training, in-country travel and living arrangements, flight and other associated costs for each Party's crew members and dependents will be borne by the host country, in a manner it deems appropriate, at a standard afforded its own flight crews.

## ARTICLE II: DESIGNATION OF REPRESENTATIVES AND ORGANIZATIONS

Designated Points of Contact for the implementation of the activities described herein are contained in Annex 1 to this Implementing Agreement. Annex 1 may be modified by either Party upon notification to the other Party. NPO Energiya and the Yuri Gagarin

Cosmonaut Training Facility will be the lead technical implementors of the Shuttle-Mir Program in Russia

#### ARTICLE III. JOINT IMPLEMENTATION TEAMS

The Parties agree to establish joint implementation teams to coordinate and implement the activities described herein. Designated team members will be identified by each side within 30 days of the entry into force of this Implementing Agreement. Each Party may modify the membership of its joint implementation teams at its discretion. The joint implementation teams will develop a plan for implementation of the activities described herein on the basis of equality, reciprocity and mutual benefit, consistent with the June 17, 1992 agreement.

#### ARTICLE IV: SELECTION OF CANDIDATES

1. Selection of flight candidates will be based on mutual agreement prior to any announcement. Candidates selected will be [4] current, active members of each side's astronaut or cosmonaut corps.

2. Flight candidates selected will have previous space flight experience. The cosmonaut selected for training shall have sufficient knowledge in verbal and written English. The NASA astronaut selected for training shall have sufficient knowledge in verbal and written Russian. Information that each side's candidates meet the criteria in this Article shall be exchanged prior to any announcement on crew selections.

#### ARTICLE V: TRAINING

1. Throughout their training programs, the Russian cosmonauts will be based at the Johnson Space Center in Houston, Texas, and will be assigned to the Astronaut Office in the Flight Crew Operations Directorate. The NASA astronauts will be based at Yuri Gagarin Cosmonaut Training Facility ("Star City") in the Moscow Region.

2. At the beginning of the training programs, each Party will require its candidates to enter into a Standards of Conduct Agreement with the other Party, which will include, inter alia, installation safety and security matters, provisions related to prohibitions on use of position for private gain, authority of the Mission Commander, and limitations on use of information received during training and flight. Each Party will ensure that its candidates comply with the provisions of such an agreement.

3. The candidates will have completed all aspects of the required training to the full and final satisfaction of the host Party prior to certification for flight.

4. By mutual agreement, the Parties will identify any support personnel required for the flight candidates selected.

#### ARTICLE VI: SCIENCE

1. The Parties will establish a Scientific Working Group to coordinate appropriate scientific experiments and activities to be conducted by each side on the respective missions. Designated working group members will be identified by each side within 30 days of the entry into force of this Implementing Agreement. Each Party may modify the membership of its Scientific Working Group at its discretion.

2. Results of the scientific experiments conducted by each Party under this Implementing Agreement will be made available to the scientific community in general

through publication in appropriate journals of other established channels. In the event [5] such reports or publications are copyrighted, NASA and RSA shall have a royalty-free right under the copyright to reproduce, distribute and use such copyrighted work for their own purposes.

#### ARTICLE VII: LIABILITY

1. A comprehensive cross-waiver of liability between the two Parties and their related entities (e.g., contractors, subcontractors, and other participating entities associated with the Parties including any state from which RSA procures a launch to carry out its obligations under this agreement) shall apply to the activities under this agreement. The cross-waiver of liability shall be broadly construed. The terms of the waiver are set out in Annex 2.

2. Except as provided in Annex 2, the Government of the United States and the Government of the Russian Federation will remain liable in accordance with the Convention on International Liability for Damage Caused by Space Objects (the "Liability Convention") of March 29, 1972. In the event of a claim arising out of the Liability Convention, the governments will consult promptly on any potential liability, on any apportionment of such liability, and on the defense of such claim.

#### ARTICLE VIII: INVENTION AND PATENT RIGHTS

1. With the exception of the intellectual property rights referred to in Article X, Exchange of Technical Data and Goods, and subject to national laws and regulations, provisions for the protection and allocation of intellectual property rights created during the course of cooperation under this Implementing Agreement are set forth in Annex 1 of the June 17, 1992 Agreement.

2. Except as set forth in paragraph 1, nothing in this Implementing Agreement shall be construed as granting or implying any rights to, or interest in, patents or inventions of the Parties or their contractors and subcontractors.

#### ARTICLE IX: PUBLIC INFORMATION

Release of public information regarding these joint activities may be made by the appropriate agency for its own portion of the program as desired and, insofar as participation of the other is involved, after suitable consultation.

#### [6] ARTICLE X: EXCHANGE OF TECHNICAL DATA AND GOODS

Each Party is obligated to transfer to the other Party only those technical data and goods which both Parties agree are necessary to fulfill the responsibilities of the transferring Party under this Implementing Agreement, subject to the following:

1. Interface, integration, training and safety data (excluding detailed design, manufacturing, and processing data, and associated software) will be exchanged by the Parties without restrictions as to use or disclosure, except as otherwise restricted by national laws or regulations relating to export controls.

2. In the event a Party finds it necessary to transfer technical data other than that specified in paragraph 1 above, in carrying out its responsibilities under this Implementing Agreement that are proprietary, and for which protection is to be maintained, such technical data will be marked with a notice indicating that it shall be used and

disclosed by the receiving Party and its contractors and subcontractors only for the purposes of fulfilling the receiving Party's responsibilities under this Implementing Agreement, and that the technical data shall not be disclosed or retransferred to any other entity without prior written permission of the furnishing Party. The receiving Party agrees to abide by the terms of the notice, and to protect any such marked technical data from unauthorized use and disclosure.

3. In the event a Party finds it necessary to transfer technical data and goods in carrying out its responsibilities under this Implementing Agreement that are export-controlled, and for which protection is desired, the furnishing Party will mark such technical data with a notice and identify such goods. The notice or identification will indicate that such technical data and goods will be used and such technical data will be disclosed by the receiving Party and its contractors and subcontractors only for the purposes of fulfilling the receiving Party's responsibilities under this Implementing Agreement. The notice or identification will also provide that such technical data will not be disclosed, and such technical data and goods will not be retransferred, to any other entity without prior written permission of the furnishing Party. The Parties will abide by the terms of the notice or identification and will protect any such marked technical data and identified goods.

4. The Parties are under no obligation to protect any unmarked technical data or unidentified goods.

#### [7] ARTICLE XI. CUSTOMS AND IMMIGRATION

1. Each Party will facilitate the movement of persons and goods necessary to implement this Implementing Agreement into and out of its territory, subject to its laws and regulations. The RSA will take steps to expedite such movement of persons and goods to launch facilities it will utilize to fulfill its obligations under this Implementing Agreement.

2. Subject to its laws and regulations, each Party will facilitate provision of the appropriate entry and residence documentation for the other Party's nationals and families of nationals who enter, exit, or reside within its territory in order to carry out the activities under this implementing Agreement. The RSA will take steps to arrange for such provision for such activities at launch facilities it will utilize to fulfill its obligations under this Implementing Agreement.

3. The Parties agree to arrange for free customs clearance for entrances to, and exits from, their respective countries for equipment required for implementation of the activities described herein. The RSA will take steps to arrange for such clearances to and from launch facilities it will utilize to fulfill its obligations under this Implementing Agreement.

#### ARTICLE XII: SETTLEMENT OF DISPUTES

1. The Parties will consult promptly with each other on all issues involving interpretation or implementation of this Implementing Agreement. In the case of a continuing dispute, such matters will first be referred to the Points of Contact identified in Annex 1.

2. Any matter which has not been settled in accordance with the above paragraph will be referred to the NASA Associate Administrator for Space Flight and the First Deputy of the General Director of the RSA, or their designees, for resolution. Issues not resolved at this level will be referred to the NASA Administrator and the RSA General Director.

**ARTICLE XIII: DURATION OF IMPLEMENTING AGREEMENT**

1. This Implementing Agreement will terminate five (5) years following its entry into force or upon completion of all activities covered by this Implementing Agreement, whichever comes first. This Implementing Agreement may be extended or amended by written agreement of the Parties.

[8] 2. Either Party may terminate this Implementing Agreement upon six months written notice to the other Party. Termination of this Implementing Agreement shall not affect the Parties' continuing obligations under Articles VII, VIII and X, unless otherwise agreed to by the Parties.

**ARTICLE XIV: ENTRY INTO FORCE**

This Implementing Agreement will enter into force upon an exchange of diplomatic notes between the Governments of the United States of America and the Russian Federation confirming acceptance of its terms and that all necessary legal requirements for entry into force have been fulfilled.

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments, have signed this Implementing Agreement.

Done at Moscow, in duplicate, this 5th day of October, 1992, in Russian and English languages, both texts being equally authentic.

Daniel S. Goldin  
FOR THE NATIONAL AERONAUTICS  
AND SPACE ADMINISTRATION  
OF THE UNITED STATES OF AMERICA

Yuri Koptev  
FOR THE RUSSIAN SPACE AGENCY  
OF THE RUSSIAN FEDERATION

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Protocol to the Implementing Agreement Between the  
National Aeronautics and Space Administration of the  
United States of America and the  
Russian Space Agency of the Russian Federation  
on Space Flight Cooperation  
of October 5, 1992

PREAMBLE

The National Aeronautics and Space Administration (hereafter referred to as "NASA") and the Russian Space Agency (hereafter referred to as "RSA"), jointly referred to as "the Parties";

Consistent with the Joint Statement on Cooperation in Space issued by Vice President Gore and Prime Minister Chernomyrdin on September 2, 1993; desiring to broaden the scope of the Implementing Agreement of October 5, 1992, on Human Space Flight Cooperation (hereinafter the October 5, 1992 Agreement) to encompass an expanded program of activities for cooperation involving the Russian Mir-1 Space Station and the U.S. Space Shuttle Program;

Having decided that the enhanced cooperative program will consist of a number of inter-related projects in two phases,



Having determined that Phase One will include those activities described in the October 5, 1992, Agreement and known as the Shuttle-Mir Program, including the exchange of the Russian Mir-1 crew and crew member participation in joint mission science, as well as additional astronaut flights, Space Shuttle dockings with Mir-1, and other activities,

Having further determined that Phase Two of the enhanced cooperative program will involve use of a Russian Mir module of the next generation mated with a U.S. laboratory module operated on a human-tended basis in conjunction with the Space Shuttle, operating in a 51.6 degree orbit which is accessible by both U.S. and Russian resources, to perform precursor activities for future space station-related activities of each Party, with launch to occur in 1997; and

Intending that activities in Phase Two would be effected through subsequent specific agreements between the Parties.

Have agreed as follows:

## [2] ARTICLE I: DESCRIPTION OF ADDITIONAL ACTIVITIES

1. This Protocol forms an integral part of the October 5, 1992 Agreement.
2. An additional Russian cosmonaut flight on the Space Shuttle will take place in 1995. The back-up cosmonaut currently in training at NASA's Johnson Space Center will be the primary cosmonaut for that flight, with the STS-60 primary cosmonaut acting as back-up. During this mission, the Shuttle will perform a rendezvous with the Mir-1 Space Station and will approach to a safe distance, as determined by the Flight Operations and Systems Integration Joint Working Group established pursuant to the October 5, 1992 Agreement.
3. The Space Shuttle will rendezvous and dock with Mir-1 in October-November 1995, and, if necessary, the crew will include Russian cosmonauts. Mir-1 equipment, including power supply and life support system elements, will also be carried. The crew will return on the same Space Shuttle mission. This mission will include activities on Mir-1 and possible extravehicular activities to upgrade solar arrays. The extravehicular activities may involve astronauts of other international partners of the Parties.
4. NASA-designated astronauts will fly on the Mir-1 space station for an additional 21 months for a Phase One total of two years. This will include at least four astronaut flights. Additional flights will be by mutual agreement.
5. The Space Shuttle will dock with Mir-1 up to ten times. The Shuttle flights will be used for crew exchange, technological experiments, logistics or sample return. Some of those flights will be dedicated to resources and equipment necessary for life extension of Mir-1. For schedule adjustments of less than two weeks, both sides agree to attempt to accommodate such adjustments without impacting the overall schedule of flights. Schedule adjustments of greater than two weeks will be resolved on a case-by-case basis through consultations between NASA and RSA.
6. A specific program of technological and scientific research, including utilization of the Mir-1 Spektr and Priroda modules, equipped with U.S. experiments, to undertake a wide-scale research program, will be developed by the Mission Science Joint Working Group established pursuant to the October 5, 1992 Agreement. The activities carried out in this program will expand ongoing research in biotechnology, materials sciences, biomedical sciences, Earth observations and technology.
7. Technology and engineering demonstrations applicable to future space station activities will be defined. Potential areas include but are not limited to: automated rendezvous and docking, electrical power systems, life support, command and [3] control,



microgravity isolation system, and data management and collection. Joint crew operations will be examined as well.

8. The Parties consider it reasonable to initiate in 1993 the joint development of a solar dynamic power system with a test flight on the Space Shuttle and Mir in 1996, the joint development of spacecraft environmental control and life support systems, and the joint development of a common space suit.

9. The Parties will initiate a joint crew medical support program for the benefit of both sides' crew members, including the development of common standards, requirements, procedures, databases, and countermeasures. Supporting ground systems may also be jointly operated, including telemedicine links and other activities.

10. The Space Shuttle will support the above activities, including launch and return transportation of hardware, material, and crew members. The Shuttle may also support extravehicular and other space activities.

11. Consistent with U.S. law, and subject to the availability of appropriated funds, NASA will provide both compensation to the RSA for services to be provided during Phase One in the amount of US \$100 million in FY 1994, and additional funding of US \$300 million for compensation of Phase One and for mutually-agreed upon Phase Two activities will be provided through 1997. This funding will take place through subsequent NASA-RSA and/or through industry-to-industry arrangements. Reimbursable activities covered by the above arrangements and described in paragraphs 3-8 will proceed after these arrangements are in place and after this Protocol enters into force in accordance with Article III. Specific Phase One activities, schedules and financial plans will be included in separate documents.

12. Implementation decisions on each part of this program will be based on the cost of each part of the program, relative benefits to each Party, and relationship to future space station activities of the Parties.

13. The additional activities will not interfere with or otherwise affect any existing, independent obligations either Party may have to other international partners.

#### ARTICLE II: JOINT IMPLEMENTATION TEAMS

The coordination and implementation of the activities described herein will be conducted through the Joint Working Groups established pursuant to the October 5, 1992 Agreement or such other joint bodies as may be established by mutual agreement

#### [4] ARTICLE III ENTRY INTO FORCE

This Protocol will enter into force upon an exchange of diplomatic notes between the Governments of the United States of America and the Russian Federation confirming acceptance of its terms and that all necessary legal requirements for entry into force have been fulfilled

IN WITNESS WHEREOF the undersigned, being duly authorized by their respective Governments, have signed this Protocol. Done at Moscow, in duplicate, this sixteenth day of December, 1993, in the English and Russian languages, both texts being equally authentic.

FOR THE NATIONAL AERONAUTICS  
AND SPACE ADMINISTRATION  
OF THE UNITED STATES OF AMERICA  
Daniel S. Goldin

FOR THE RUSSIAN SPACE  
AGENCY  
OF THE RUSSIAN FEDERATION  
Yuri Koptev