Implementing Arrangement
between the
Ministry of Education, Culture, Sports, Science, and Technology of Japan and the
National Aeronautics and Space Administration
of the United States of America
Concerning
Cooperation on the Civil Lunar Gateway
Related to a Crew Opportunity, Habitation Capability Infrastructure Functions and Logistics Resupply

Table of Contents

Preamble

The Ministry of Education, Culture, Sports, Science, and Technology of Japan (hereinafter referred to as "MEXT") and the National Aeronautics and Space Administration of the United States of America (hereinafter referred to as "NASA") (hereinafter jointly referred to as "the Cooperating Agencies"),

Recalling the *Agreement among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation, and the Government of the United States of America Concerning Cooperation on the Civil International Space Station*, signed on January 29, 1998 (hereinafter referred to as the "IGA"),

Recognizing that pursuant to Article 4.1 of the IGA, NASA is the Cooperating Agency,

Recalling the *Memorandum of Understanding between the Government of Japan and the National Aeronautics and Space Administration of the United States of America Concerning Cooperation on the Civil Lunar Gateway*, signed at Washington and Tulsa on December 28 and 31, 2020 (hereinafter referred to as "the GOJ-NASA Gateway MOU"), and

Recognizing that pursuant to Article 1.2 of the GOJ-NASA Gateway MOU, the Government of Japan (hereinafter referred to as "GOJ") has designated MEXT as its Cooperating Agency responsible for implementing cooperation and has determined that the Japan Aerospace Exploration Agency (hereinafter referred to as "JAXA") may, as appropriate, assist MEXT in its implementation of the GOJ-NASA Gateway MOU and implementing arrangements,

The Cooperating Agencies hereby adopt the following sections of this Implementing Arrangement (hereinafter referred to as the "IA"):

Section 1 – Purpose

The purpose of this IA is to establish and further delineate MEXT's provision of the Habitation Capability Infrastructure Functions and Logistics Resupply as provided for in Article 7.2(a)1 of the GOJ-NASA Gateway MOU and NASA's provision of a crew opportunity to the Gateway as provided for in Article 7.1(b)15 of the GOJ-NASA Gateway MOU.

Section 2 – Relationship to the GOJ-NASA Gateway MOU

While this IA is not an international agreement and does not give rise to rights and obligations under international law, it is pursuant to Article 1.5 (Purpose, Objectives, and Scope) of the GOJ-NASA Gateway MOU and is subject to the terms of the GOJ-NASA

Gateway MOU. In the event of a conflict between the content of this IA and the GOJ-NASA Gateway MOU, the terms of the GOJ-NASA Gateway MOU will govern.

Section 3 – Assisting Agency

Consistent with Article 1.2 of the GOJ-NASA Gateway MOU, JAXA may, as appropriate, assist MEXT in implementing MEXT's responsibilities specified in Section 4.

Section 4 – Respective Responsibilities

4.1 MEXT will, with JAXA as appropriate and consistent with Article 7.2 of the GOJ-NASA Gateway MOU:

(a) For the Gateway Habitation Capability Infrastructure Functions,

1. Provide and deliver associated hardware and software for the environment control, imagery, batteries, and thermal control systems of the International Habitation Module and the identical habitation hardware selected in support of the European Space Agency's (hereinafter referred to as "ESA") integration of an additional Gateway element as detailed in program documentation such as the Multilateral Hardware and Software Exchange Agreement Lists and Schedules. JAXA will work directly with the ESA on design and development of the provided items, and deliver to destinations, including ESA locations, for integration by ESA.

2. Provide and deliver Habitation and Logistics Outpost (hereinafter referred to as "HALO") batteries, that meet specifications provided by NASA, to the NASA contractor who is specified as the HALO module integrator by NASA.

(b) For the Gateway Logistics Resupply, provide a logistics resupply mission to the Gateway, that has a capability of 4.0 metric tons of pressurized cargo with an average cargo density of 290kg/m^3 on a fast transit (less than 30 days from launch to arrival at the Gateway). This capability performance includes up to 200W of power supply to and heat rejection from cargo. This logistics resupply will include launch, transit to the Gateway, integrated operations at Gateway, and disposal, in accordance with program documentation.

4.2 NASA will:

(a) Provide MEXT with one (1) crew opportunity to the Gateway consistent with Article 7.1(b)15 of the GOJ-NASA Gateway MOU.

(b) Take into consideration a significant increase in capability above the parameters of the MEXT-provided logistics resupply mission described in Section 4.1(b) as an additional contribution to NASA's exploration program in combination with future proposals for cooperation by MEXT, in accordance with Section 4.3.

4.3 Cooperating Agencies will:

Mutually coordinate further opportunities for cooperation on the Gateway, which may include additional Gateway logistics resupply missions provided by GOJ and additional Japanese crew flight opportunities to the Gateway provided by NASA. Further cooperation will be documented via modification to this IA or separate arrangements pursuant to Article 1.5 (Purpose, Objectives, and Scope) of the GOJ-NASA Gateway MOU.

Section 5 - Schedule

5.1 Major milestones for implementation of the Gateway Habitation Capability Infrastructure Functions responsibilities described in Section 4.1(a), except for HALO batteries, will be coordinated by NASA and JAXA with ESA and documented in multilateral program documents.

5.2 The delivery schedule for HALO batteries will be coordinated directly with the NASA contractor.

5.3 The Gateway Logistics Resupply described in Section 4.1(b) is targeted for 2030, and the schedule of the flight will be coordinated at the program level and documented in multilateral program documents.

5.4 These milestones may be modified at the Gateway Program Control Board, if required.

Section 6 – Investigations of Close Calls, Mishaps, and Mission Failures

In the case of a close call, mishap, or mission failure, the Cooperating Agencies will provide assistance to each other in the conduct of any investigation, bearing in mind the provisions of Article 19 (Transfer of Goods and Technical Data) of the GOJ-NASA Gateway MOU. In the case of activities under this IA that might result in the death of or serious injury to persons or substantial loss of or damage to property, the Cooperating Agencies will establish a process for investigating each close call, mishap, or mission failure.

Section 7 – Orbital Debris and Spacecraft Disposal

7.1 With respect to activities under this IA, the Cooperating Agencies will act consistently with the Space Debris Mitigation Guidelines of the United Nations Committee on the Peaceful Uses of Outer Space, endorsed by the United Nations General Assembly in its Resolution 62/217 of December 22, 2007. The Cooperating Agencies may mutually determine in writing to apply other guidelines for the mitigation of orbital debris to activities under this IA.

7.2 In furtherance of Section 7.1, the Cooperating Agencies will plan for the mitigation of orbital debris, where appropriate, including the safe, timely, and efficient passivation and disposal of the spacecraft at the end of its mission, as part of the mission planning process. Such a plan will include which Cooperating Agency has the lead for the end of mission planning, conjunction assessment, and the standards to be used for the mitigation of orbital debris.

Section 8 – Commencement, Modification, and Discontinuation

8.1 This IA will commence on the date of the last signature by the Cooperating Agencies.

8.2 This IA may be modified by mutual written decision of the Cooperating Agencies.

8.3 If the GOJ or the Government of the United States of America gives notice of withdrawal from the IGA in accordance with Article 28 (Withdrawal) of the IGA, or gives notice of termination of the GOJ-NASA Gateway MOU, in accordance with Article 24 (Final Provisions) of the GOJ-NASA Gateway MOU, the corresponding Cooperating Agency will be deemed to have discontinued this IA from the date of such withdrawal or termination.

8.4 Either Cooperating Agency may discontinue this IA at any time and will give the other Cooperating Agency at least one year's written notice of its intent to discontinue. For the avoidance of doubt, such discontinuation will be in accordance with Article 24.4 of the GOJ-NASA Gateway MOU.

8.5 For avoidance of doubt, this IA is subject to Article 24.5 (Final Provisions) of the NASA-Japan Gateway MOU. Commitments under Section 7 (Orbital Debris and Spacecraft Disposal) of this IA will continue to apply to activities commenced before any discontinuation of this IA notwithstanding the discontinuation of this IA.

Signed in two originals in the English language.

FOR THE MINISTRY OF EDUCATION, CULTURE, SPORTS, SCIENCE, AND TECHNOLOGY OF JAPAN:	FOR THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION OF THE UNITED STATES OF AMERICA:
Keiko Nagaoka	Bill Nelson
Place	Place
Date	Date