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**Before the**  
**House Armed Services Committee – Subcommittee on Strategic Forces**  
**and House Foreign Affairs Committee – Subcommittee on International Development,**  
**International Organizations, and Global Corporate Social Impact**  
**on “Rules-Based Space Order”**  
**May 5, 2021**

Thank you, Chairman Cooper, Ranking Member Turner, Chairman Castro, Ranking Member Malliotakis, and distinguished Members of the Subcommittees. I am honored to testify today alongside my distinguished colleagues. It is my pleasure to be here to discuss the promotion of responsible behavior in outer space focused on the civil and commercial sectors of the overall space enterprise.

My bureau, the Bureau of Oceans and International Environmental and Scientific Affairs, or OES, engages with other nations on civil and commercial space activities, and this will be my focus. With the Bureau of Arms Control, Verification and Compliance, we share responsibility for diplomacy aimed at ensuring all actors across all space sectors are behaving in a manner that is consistent with the international regime established by the 1967 Outer Space Treaty and associated conventions and agreements.

**National Space Policy Guidance on Responsible Behavior**

Our Executive branch policy guidance on promoting responsible behavior in outer space activities is clear. The Biden Administration’s March 2021 Interim National Security Strategic Guidance states that: “We will explore and use outer space to the benefit of humanity, and ensure the safety, stability, and security of outer space activities.” That guidance goes on to say that “We will lead in promoting shared norms and forge new agreements on emerging technologies, [including] space.” Encouraging and facilitating responsible behavior in space is also a major principle of the 2020 National Space Policy. Consistent with previous policy, a guiding principle is that it is in the shared interest of all nations to act responsibly in space to ensure the safety, stability, security, and long-term sustainability of space activities.

Throughout the detailed guidance in the 2020 policy, departments and agencies, in collaboration with the Secretary of State, are charged with actions to promote a framework for responsible behavior in outer space that includes the international adoption of U.S. space regulatory practices, interoperability among space systems, services, and data, and facilitating new market opportunities for United States commercial space capabilities and services, to name a few. The 2020 National Space Policy calls for cooperation with likeminded international partners to establish standards of safe and responsible behavior, including openness, transparency, and predictability, to facilitate the detection, identification, and attribution of actions in space that are inconsistent with the safety, stability, security, and long-term sustainability of space activities.

## **The Committee on the Peaceful Uses of Outer Space and Long-term Sustainability Guidelines**

The United States has successfully utilized the United Nations Committee on the Peaceful Uses of Outer Space, or COPUOS, for over 60 years to build international support for United States space policies and our vision for expanding human presence in space and promoting the responsible use of space. Since its inception in 1958, COPUOS, as the preeminent international forum for advancing the peaceful exploration and use of outer space, has promoted international cooperation in space activities and has fostered information exchange among developed and developing countries on the latest advances in space exploration and applications and their beneficial results for humanity.

The United States actively engages with the United Nations Office for Outer Space Affairs (UNOOSA), which serves as the Secretariat for COPUOS and for the International Committee on Global Navigation Satellite Systems (ICG). UNOOSA is the key UN office responsible for facilitating international collaboration and promoting transparency in outer space activities through the Registration of Objects Launched into Outer Space. UNOOSA also helps countries use space data and technologies, such as satellite imagery, to prevent disasters through the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER) and manages a broader space application program focused on capacity building in developing nations. The United States will continue its productive relationship with UNOOSA and its distinguished director, Simonetta Di Pippo, as we look to ensure that all countries exercise safe and responsible behavior in space.

COPUOS accomplishes its work through a consensus decision-making process involving two subcommittees: the Scientific and Technical Subcommittee (STSC) and the Legal Subcommittee (LSC). The STSC meets annually and provides technical expertise to inform the work of the Committee and considers new technical challenges in outer space activities as they arise. The U.S. delegation to the STSC is led each year by NASA, as our lead civil space technical agency, and includes representation from across the Executive branch, including the Department of Defense (DoD). We also include industry representatives as private sector advisers to our delegation, and we consult with additional non-governmental stakeholders to gain a better understanding of their perspective on issues under discussion. This whole-of-government, whole-of-America approach helps ensure that the United States considers a broad range of equities as it advances our objectives through COPUOS and its subcommittees.

The Legal Subcommittee also meets annually and examines legal issues related to the peaceful uses of outer space as they may arise. This includes discussions regarding the existing international legal framework for outer space activities, which includes the Outer Space Treaty, the Registration Convention, the Agreement on the Rescue and Return of Astronauts, the Liability Convention, and for some nations, the Moon Treaty. This legal framework has helped ensure safe operations for the United States government and industry space activities that have advanced technological capabilities, scientific understanding, and improved the quality of life around the world. The U.S. delegation to the LSC is led by the space law experts in State's Office of the Legal Adviser and includes space attorneys and policymakers from other departments and agencies, again, including DoD.

The decisions of the committee and its two subcommittees are taken by consensus. All participating member states must agree on any conclusions or actions to be reported to the UN General Assembly in New York. The historically consensus-based negotiations process of the Vienna-based UN institutions, known as the so-called “Vienna spirit” has itself been an important U.S. priority, due to the real and long-lasting impact on avoiding bad outcomes and cooperatively advancing U.S. objectives related to nuclear energy, crime prevention, and criminal justice as well as outer space.

While some COPUOS Member States over the years have sought new treaties to govern outer space activities through other UN fora, we have used COPUOS to develop best practices, based on U.S. space operations experience, to help countries with their national approaches to their own domestic oversight of outer space activities. The most recent example is the adoption in 2019, through the Fourth Committee of the United Nations General Assembly, of 21 Long-Term Sustainability (LTS) guidelines developed by consensus of the COPUOS member states, and heavily influenced by U.S. best practices and commercial approaches to space operations.

These guidelines, while voluntary and non-legally binding, nevertheless establish a widely accepted international framework that focuses on ensuring a sustainable outer space environment that is accessible to future generations. The guidelines address key U.S. objectives such as guidance on national-level policy and regulatory frameworks for space activities, safety of space operations, scientific research and development, international cooperation, and capacity-building to ensure that developing nations can establish conducive national policies for safe space operations.

Within the working-group structure of the STSC, COPUOS member states agreed to continue the Long-term Sustainability Working Group with a five-year mandate to support implementation of the guidelines; strengthen capacity-building for emerging space-faring nations in their implementation of the guidelines; and study implementation challenges as a basis for possible new guidelines. In the meantime, the United States remains focused on our own implementation of the guidelines, assisting other nations in implementing the guidelines, and encouraging other nations to report on their implementation, all in pursuit of sustainable space activities and responsible behavior in outer space.

### **U.S. Leadership in Space Exploration: The Artemis Accords**

In February, the Biden Administration endorsed NASA’s Artemis program, an ambitious effort to land the first woman and the first person of color on the Moon, and in cooperation with international partners and private industry, develop infrastructure and services to go onward to Mars and beyond. This goal has galvanized international attention and reinforces U.S. space exploration leadership. NASA’s overarching lunar program, Artemis, is intended to establish long-term human presence on the lunar surface to develop and demonstrate new technologies, capabilities, and business approaches needed for future exploration activities.

As part of broader U.S. efforts to promote a rules-based international order, and to ensure consistency in application among our partners, State and NASA, in consultation with some of

our closest spacefaring partner nations, have developed the Artemis Accords to provide answers to some of the most critical governance issues in space exploration activities beyond Earth's orbit. On October 13, 2020, the following countries joined the United States in signing the landmark Artemis Accords: Australia, Canada, Italy, Japan, Luxembourg, the United Arab Emirates, and the United Kingdom. Ukraine followed as a signatory in November and, in December, Brazil and NASA signed a joint statement of intent noting Brazil's intention to contribute to the Artemis program and to sign the Accords.

The Accords provide non-legally binding implementation guidance for the Outer Space Treaty of 1967, reinforce obligations under the Registration Convention and the Agreement on the Rescue of Astronauts, and establish norms of behavior such as the full, free, open, and timely release of scientific information. The Accords are intended to create a safe and transparent, peaceful and prosperous environment which facilitates exploration, science, and commercial activities in space for all of humanity to enjoy.

As a government-to-government political commitment, the Artemis Accords only directly apply to government civil space programs and activities, as well as commercial contractors working directly on behalf of government for civil activities. However, SpaceX, Blue Origin, and other U.S. commercial space companies support the Accords because they help clarify norms of behavior which can guide the activities of all commercial space actors in a fair and non-discriminatory manner. Therefore, it is the State Department's intention to engage in robust discussions with our space exploration partners on applying the principles of the Accords not just to our government space programs and activities, but also to our respective commercial sectors through national oversight required of all spacefaring nations under the Outer Space Treaty, taking into account appropriate differences between civil and commercial actors.

The UN Office for Outer Space Affairs has highlighted the Artemis Accords publicly, and at our request in January, the United Nations Secretary-General circulated the Artemis Accords to all UN Member States. The Accords extend our pursuit of responsible behavior in outer space beyond Earth's orbit to the Moon, Mars, our solar system, and perhaps beyond. Therefore, we are excited to engage a diverse set of potential signatories ready to affirm the principles identified within the Artemis Accords, make contributions to the Artemis program, and join us in a shared vision of sustainable space exploration and peaceful and responsible use of outer space that enable scientific discovery, brings economic benefit to our citizens, and maintains global peace and security.

One near-term component of NASA's Artemis program is the Gateway, which will be assembled in orbit around the moon and will be approximately 1/6<sup>th</sup> the size of the International Space Station. Gateway will be the enabling platform for missions to the lunar surface, and may provide support for missions to other destinations in the future. In November 2019, NASA received authority to negotiate, jointly with the State Department, binding MOUs with International Space Station partners concerning cooperation on the Gateway. Late last year, we concluded MOUs with Japan, the European Space Agency (ESA) and Canada. We have not entered into negotiation with Russia's State Space Corporation (ROSCOSMOS).

Reflecting on our current exploration commitments, the U.S. has maintained a continuous presence on the International Space Station (ISS) for over 20 years, together with Canada, the European Space Agency, Japan, and the Russian Federation. 2020 was a landmark year for U.S. ISS operations, the SpaceX Crew Dragon Demo-2 test flight to the ISS in May was the first human space mission to launch from the United States since the end of the Space Shuttle program in 2011. The test flight was followed by the first commercial crew rotational flight to the station in November, and then the second in April of 2021. We are aware of reports that Russia is evaluating future participation in the ISS. However, the ISS partners, including Russia, have confirmed their participation in the Program through at least 2024, and are assessing extension. The ISS Intergovernmental Agreement (IGA), signed by each of these parties, is the legal framework for this cooperation.

The legal framework for U.S. civil space cooperation with Russia in non-ISS affairs is the government-to-government agreement on cooperation in the exploration and use of outer space for peaceful purposes, which was recently extended through December 31, 2030. NASA uses this agreement to enable the provision of Russian instruments on NASA missions currently in orbit around the Moon and Mars and, in one instance, on the surface of Mars. There are also several multilateral venues for cooperation on important satellite-based applications, such as ensuring interoperability of the various GPS systems through the International Committee on GNSS (Global Navigation Satellite Systems), exchanging data and information through the Committee on Earth Observation Satellites (CEOS), and facilitating search and rescue through the International Satellite-based Search and Rescue Program (COSPAS-SARSAT).

### **Bilateral/Multi-Country Civil/Commercial Space Dialogues**

As previously noted, the commercial sector seeks a predictable and transparent framework for the oversight of private sector outer space activities. This is true for existing space applications markets, such as satellite-based remote sensing and navigation, and for newer ventures, such as on-orbit satellite servicing, space tourism and space exploration and resource utilization beyond Earth's orbit. State, in coordination with the interagency and through bilateral and multi-country engagement, is building a coalition of like-minded countries to put in place nationally-implemented oversight of outer space that promotes scientific discovery and economic growth and innovation in the U.S. commercial space sector, as well as responsible behavior from commercial actors.

In addition to the multilateral activities mentioned, we also advance the goal of growing the space economy in a safe and responsible manner through bilateral dialogues with international partners, including: Australia, Canada, China, India, Indonesia, Israel, Japan, the Republic of Korea, Thailand, Vietnam, the UAE; and the European Union (EU). We have initiated discussions with our closest allies, Australia, Canada, New Zealand, and the United Kingdom, to align respective national oversight practices for commercial space activities to avoid dual regulation and maximize innovation and entrepreneurship, while simultaneously ensuring adequate authorization and continuing supervision to promote responsible behavior.

In the specific case of China, the primary goal of U.S. engagement on outer space issues is to ensure spaceflight safety and responsible behavior in outer space. To that end, it is important

that we gain a better understanding of China's space science and exploration program goals and activities, exchange guidelines and best practices for safe and responsible commercial space activities, and encourage mutually beneficial open exchange of scientific data from civil space missions. Maintaining this engagement means that we have a framework to work with China to avoid, for example, potential collisions in orbit or radio frequency interference with the U.S. Global Positioning System (GPS). We expect that China will follow principles for outer space exploration and utilization that are grounded in in the Outer Space Treaty.

This diplomacy is conducted in coordination with our domestic regulators such as the Federal Aviation Administration (FAA) for launch, the Federal Communications Commission for spectrum and communications, and the Department of Commerce, National Oceanic and Atmospheric Administration for commercial remote sensing. As an example, we have had extensive discussions with New Zealand, in partnership with the FAA, on launching state responsibilities related to the company Rocket Lab, which routinely launches from both New Zealand and the United States and is licensed by the FAA.

## **Conclusion**

Establishing international frameworks and developing and implementing voluntary, non-legally binding norms of behavior based on United States policy and best practices will aid American companies in developing transformational technologies and business models that reinforce leadership in the civil, commercial, and national security space sectors, both domestically and abroad. The Department of State, in coordination with the interagency, will continue to utilize multilateral venues, multi-country initiatives such as the Artemis Accords, and bilateral consultations with other spacefaring nations to build and expand a coalition of like-minded nations to support U.S. goals for commercial space activity, responsible behavior in outer space, and space exploration endeavors beyond low-Earth orbit.