

National Aeronautics and Space Administration  
Office of the Administrator  
Washington, DC 20546-0001



February 26, 2020

General Lester L. Lyles (USAF, Ret.)  
Chair  
NASA Advisory Council  
Washington, DC 20546

Dear General Lyles:

Enclosed is NASA's response to a recommendation from the NASA Advisory Council meeting held on October 31 - November 1, 2019, at the NASA Kennedy Space Center. Please do not hesitate to contact me if the Council would like further background on the response. I appreciate the Council's thoughtful consideration leading to the recommendations and welcome its continued findings, recommendations, and advice concerning the U.S. civil space program.

I look forward to working closely with you and members of the Council in the future.

Sincerely,

A handwritten signature in cursive that reads "Jim Bridenstine".

James F. Bridenstine  
Administrator

Enclosure:  
2019-02-03 (RPC-01) Principles on Space Resources

## NASA Advisory Council Recommendation

### Principles on Space Resources 2019-02-03 (RPC-01)

#### **Recommendation:**

The Council recommends that NASA, in coordination with the National Space Council, work with the Departments of State, Commerce, Transportation, and Defense, to formulate and adopt specific principles, guidelines, rules and regulations, as appropriate, that address the extraction and utilization of space resources. Furthermore, the Council recommends that NASA, in coordination with other Federal entities as appropriate, advocate for the global adoption of such principles by additional countries and international bodies.

The Council has crafted initial Principles *for the Administrator's consideration* which are provided below as Annex A:

#### **Annex A: Principles on Space Resources**

##### **Principle 1**

Abiotic space resources (or simply “space resources”) shall be extracted in a manner that fully complies with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. In this context, the term “extraction” includes but is not limited to (i) the extraction of resources from the interior of a celestial body and (ii) the recovery of resources from the surface of a celestial body.

##### **Principle 2**

The extraction of space resources should be conducted in a manner that takes into account the United States’ commitment to the United Nations Guidelines for the Long-term Sustainability of Outer Space Activities.

##### **Principle 3**

The extraction and utilization of space resources does not constitute national appropriation under Article II of the Outer Space Treaty.

##### **Principle 4**

Per Article VI of the Outer Space Treaty, States shall authorize and supervise the extraction of space resources from celestial bodies.

##### **Principle 5**

States’ domestic laws should facilitate government and non-government extraction and utilization of space resources as well as the ownership of those resources.

Enclosure

**Principle 6**

The principle of due regard, consistent with Article IX of the Outer Space Treaty, should be taken into account by any State authorizing the extraction of space resources. If the State responsible for authorizing the extraction of space resources has reason to believe, based on the information described by Article XI, such activities would result in harmful interference, consistent with Article IX, the State shall engage in consultations with the affected States.

**Principle 7**

States shall share scientific information with the international community resulting from activities related to space resource extraction and utilization, to the greatest extent feasible and practicable, on a good-faith basis, and in compliance with national laws, including but not limited to export controls as well as protections for intellectual property and national and commercially sensitive data.

**Principle 8**

States shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, in compliance with national laws, including but not limited to export controls as well as protections for intellectual property and national and commercially sensitive data, regarding the nature, conduct, and location(s) of authorized space resource extraction activities. States shall also provide timely notice to the Secretary-General of terminated space resource extraction activities.

**Major Reasons for the Recommendation:**

The ability to extract and utilize space resources is critical to the success of Artemis specifically and the future of both public and private space exploration and commerce generally. NASA, in collaboration with the Departments of State, Commerce, Transportation, and the National Space Council, needs to ensure that the U.S. has a clear policy enabling extraterrestrial resource extraction and utilization that can serve as a model for other countries as well as international bodies such as the United Nations Committee on the Peaceful Uses of Outer Space (UN COPUOS).

**Consequences of No Action on the Recommendation:**

If NASA does not lead by example, foreign countries, the UN COPUOS, and/or other international bodies, may adopt conflicting or different policies that could create barriers to or even deter investment in the extraction and utilization of extraterrestrial resources. Moreover, the lack of a clear and consistent global policy could result in unnecessary confusion and potentially conflict over space resources.

**NASA Response:**

NASA concurs with the Council's recommendation. As the United States proceeds to implement its long-term sustainable program of exploration of the Moon and Mars, NASA leadership and advocacy efforts are essential to ensure that plans for the extraction and utilization of space resources do not encounter legal or policy obstacles that will impede these plans. To that end,

NASA will also carefully consider the proposed draft *Annex A: Principles on Space Resources* submitted by the Council. NASA looks forward to working proactively on a national and international basis to formulate and adopt principles that actively promote and encourage the extraction of space resources. NASA will keep the Council apprised of its national and global efforts at future Council meetings.