

# **Trump EO: The Moon and Other Celestial Bodies Should Be Open to Private Resource Development**

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April 25, 2020

Despite the current chaos caused by the coronavirus, Washington still must consider the future. Which explains the president's new executive order that would allow private resource development on the moon and asteroids. It clearly rejects the "common heritage of mankind" rhetoric deployed by the United Nations on behalf of the Law of the Sea Treaty, which four decades ago created a special UN body to seize control of seabed resources.

## **The Future of Space Exploration**

The EO issued earlier this month explained that

Successful long-term exploration and scientific discovery of the Moon, Mars, and other celestial bodies will require partnership with commercial entities to recover and use resources, including water and certain minerals, in outer space.

The measure began the process of revising an uncertain legal regime which currently discourages private sector development.

The administration pointed to the 1979 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (known as the Moon treaty) and the 1967 Treaty on Principles Governing the Activities of State in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (typically called the Outer Space Treaty). Neither is friendly to entrepreneurs or explorers with a commercial bent.

In response, the president announced that

Americans should have the right to engage in commercial exploration, recovery, and use of resources in outer space, consistent with applicable law. Outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons. Accordingly, it shall be the policy of the United States to encourage international support for the public and private recovery and use of resources in outer space, consistent with applicable law.

## **Space is a Long-Term Prospect**

The document's main directive is for the Secretary of State, in cooperation with other agencies, to "take all appropriate actions to encourage international support for the public and private recovery and use of resources in outer space." The secretary is to "negotiate joint statements and bilateral and multilateral arrangements with foreign states regarding safe and sustainable operations for the public and private recovery and use of space resources."

Obviously, the administration's attention is directed elsewhere at the moment. However, the potential benefits of turning to space are significant. The value of scientific research is obvious and continues to drive government agencies such as NASA. Launch services and space tourism have caught the interest of private operators. Such activities offer fewer legal and practical difficulties than attempting to establish some sort of long-term presence in the great beyond.

More complex development of space is a longer-term prospect. However, that makes it even more imperative to encourage innovation by creating institutions and incentives that encourage responsible development of what truly is the "final frontier."

### **Space Entrepreneurs**

Even now visionaries are imagining the possibilities of space. Last year two long-time space entrepreneurs, Jeff Greason and James C. Bennett, wrote a detailed study for the Reason Foundation on the potential for economic development of this different world, so vast and mysterious to most of us. Among possible activities:

tapping space-based clean energy sources, mining asteroids for useful raw materials, developing safe venues for scientific experiments, upcycling/sequestering hazardous but valuable debris currently in space, tapping sources of water already in space, to decouple into oxygen and hydrogen for space fuels and oxidizers, and to provide radiation shielding mass, and using the low-gravity, low-temperature and other properties of space for many activities, including manufacturing and research.

Greason and Bennett advocate an important role for NASA but propose to achieve that by redirecting existing funds rather than increasing expenditures. They see gradual growth in private sector activities, which have become increasingly significant in recent years, though focused on launches. The authors write: "our current radical transformation in space transport as private actors and market forces have slashed the costs of accessing space. These advancements have already greatly reduced costs for not only NASA, but also civilian (mostly satellite) and military space transport as well."

To expand the private role in space Washington should focus on establishing a positive legal framework. The U.S. Commercial Space Launch Competitiveness Act was a start, though its greatest emphasis was on launch activities. However, the legislation included a short section on "Space Resource Exploration and Utilization."

Congress instructed the president to:

(1) facilitate commercial exploration for and commercial recovery of space resources by United States citizens; (2) discourage government barriers to the development in the United States of economically viable, safe, and stable industries for commercial exploration for and commercial recovery of space resources in manners consistent with the international obligations of the United States; and (3) promote the right of United States citizens to engage in commercial exploration for and commercial recovery of space resources free from harmful interference.

### **Legal Clarification Needed**

Needed now is a specific legal code to cover commercial activities in space. What is the legal status of areas used for mining, experiments, or other activities? How to sort out disputes over territories claimed? To what resources can companies gain title? What contract law applies to

transactions involving space? And to agreements concluded in space? How about criminal law covering participants in a gradually expanding space presence?

A new international framework also is needed. Existing agreements do not suffice.

The Moon Treaty restricted use of the Moon (and other celestial bodies) “exclusively for peaceful purposes.” The prohibition on military activities is broad, though obviously unenforceable: “Any threat or use of force or any other hostile act or threat of hostile act on the Moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act or to engage in any such threat in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or manmade space objects.”

This pact included a long list of unobjectionable, even obvious, admonitions: consider the interests of future generations, be guided by “the principle of cooperation and mutual assistance,” alert other countries to conflicting uses, consider making Moon materials collected available to other states, don’t disrupt the environment, and “adopt all practicable measures to safeguard the life and health of persons on the Moon.”

### **Commercialization in Space**

What about commercialization? The agreement offered little guidance but appeared hostile. It was adopted when the redistributionist “New Economic Order” was being pushed by the long-gone Group of 77 at the UN, which represented largely socialist dictatorships which sought to guilt the West into transferring vast resources to their treasuries. Indeed, the Moon Treaty embodied many of the same principles behind the Law of the Sea Treaty’s section governing seabed mining. The latter emerged when the prospect of trillions of dollars worth of minerals littering the ocean floor bedazzled big spending, highly indebted Third World governments. Naturally, they demanded “their” share of the action.

Years of negotiation yielded an almost comical Rube Goldberg system, in which the least capable states would rule. The Authority would control seabed mining. The Enterprise would mine “the common heritage of mankind” on behalf of the world’s most corrupt, least developed, and largely undemocratic regimes. Rules were established to limit mining, transfer technology, and redistribute wealth. The Soviet Union was granted three seats, the U.S. only one. There was no veto for America. High on the agenda of the two UN conferences developing the treaty which I attended was constant maneuvering by conference leaders hoping to grab post-ratification jobs at The Authority—later headquartered in Jamaica but without much to do since seabed mining never took off.

The Moon Treaty similarly declared that the Moon and other celestial bodies would be “the common heritage of mankind.” There would be no security of property or tenure: “Neither the surface nor the subsurface of the Moon, nor any part thereof or natural resources in place, shall become property of any State, international intergovernmental or non-governmental organization, national organization or non-governmental entity or of any natural person.”

Those who ratified the document pledged to “undertake to establish an international regime ... to govern the exploitation of the natural resources of the Moon.” Such an entity, imagine a heavenly version of The Authority, would be directed to ensure “orderly” development and “rational management” of resources and of course “an equitable sharing by all,” by which the

“interests and needs of the developing countries” would be given “special consideration.” Meaning interlunar, and perhaps even interstellar or intergalactic income redistribution.

Obviously, an outer space LOST would be a very bad idea. Although the Moon Treaty hangs over space development, it can be easily ignored, having received but 18 ratifications, none by states capable of exploring space. America, China, and Russia neither signed nor ratified the agreement. India signed but did not ratify. The only European nations to ratify are Austria, Belgium, and the Netherlands. None of them appears ready to go to the Moon, let alone beyond.

### **The Outer Space Treaty**

The Outer Space Treaty, in contrast, has been ratified by 109 countries, including all of the major potential players in space. However, the pact primarily covers two issues. First, it is a disarmament agreement, banning deployment of nuclear weapons in space and reserving the Moon and other celestial bodies for peaceful uses. There are to be no military bases, weapons testing, or military maneuvers.

Second, the treaty encourages safe, responsible action as states explore the heavens. It blesses “exploration,” “scientific investigation,” and “international cooperation,” and forbids countries from claiming sovereignty over celestial bodies. States the treaty: “outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means.”

Nevertheless, sovereignty is retained over objects launched into space. Moreover, the treaty declares that:

the activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.

Which suggests that commercial activities could be carried out under the authority of member nations.

However, there are no suggested rules. Rather, the text is filled with predictable hortatory sentiments about serving mankind which have no practical import. For instance, Article I states: “The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.” On the issue of conflicting uses by different parties, the pact merely calls on countries to “undertake appropriate international consultations before proceeding with any such activity or experiment.”

In succeeding years efforts have been made to develop some detailed guidelines, but with little success. The last meeting of the UN Committee on the Peaceful Uses of Outer Space two years ago produced little.

### **Cooperative Brainstorming Needed**

The best option would be to bring together those nations with the potential for exploring and commercializing space to draft what for seabed mining was called the reciprocating states agreement. That pact created a system for resolving conflicts among ocean floor mining claims. It was never used, since mining never proved financially viable. However, the agreement would

have facilitated any commercial activity by creating a mechanism to resolve disputes among companies and governments.

In the longer-term Washington should work with the same governments to develop a more formal international framework, perhaps to be blessed by the UN Security Council, which is dominated by industrialized powers interested in space. Given the LOST debacle, a global conference filled with countries mostly hoping to exact tribute for giving their blessing for other nations' space activities should be avoided. Such efforts should accelerate as prospects of commercialization grow more realistic.

Admittedly, commercial activities beyond launching services and tourism look far into the future. However, a number of companies hope to develop a variety of space operations, including on asteroids. For instance, both Deep Space Industries and Planetary Resources were established to do the latter, though have undertaken other, currently more practical, operations. Matt Williams of the website University Today noted that “people like Peter Diamandis (founder of X Prize and HeroX) and science communicator Neil DeGrasse Tyson have been saying for years that the first trillionaires will make their fortunes from asteroid mining.” Amazon's Jeff Bezos founded the space-oriented firm Blue Origin and said he wanted “to build space hotels, amusement parks and colonies for 2 million or 3 million people who would be in orbit.” Tesla's Elon Musk created Space Exploration Technologies, or SpaceX, which today is focused on designing advanced rockets and spacecraft, but obviously could eventually expand in new directions.

Some critics compare such activities to discredited colonialism, but unless they know something the rest of us don't there are no space peoples to conquer and rule. The brutal subjugation of entire populations is why colonialism was a moral outrage and affront to human dignity. People have a unique moral status. There is nothing similarly sacred about the not so pristine surface of the Moon or an asteroid. With due regard for environmental and safety concerns, exploration and commercialization should be encouraged. Indeed, at a time of shrinking government space budgets—if nothing else, recovering from the COVID-19 pandemic will leave little spare change for grandiose, long-term visionary projects—private financing might be the only way to advance space development.

Today Washington is very busy dealing with a deadly pandemic. But the crisis will soon pass. Officials should then look to the future, including the possibility of space exploration and commercialization. That will require a proper legal framework to complement the entrepreneurial vision already evident in the U.S. The president's new executive order is a good step forward. But much more needs to be done to prepare for what hopefully will be a future filled with dramatic steps ever further into space.

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