

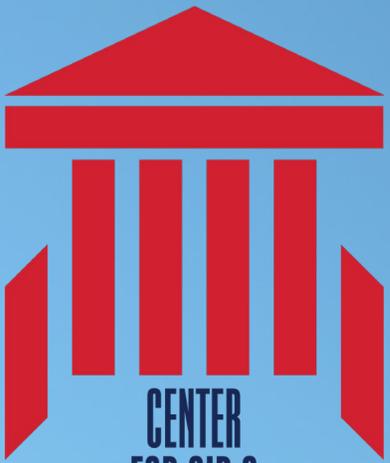


# Due Regard and Safety Zones: Understanding the Commercial Implications of Recent Policy and Legislation

Michelle L.D. Hanlon

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FOR ALL  
MOONKIND™



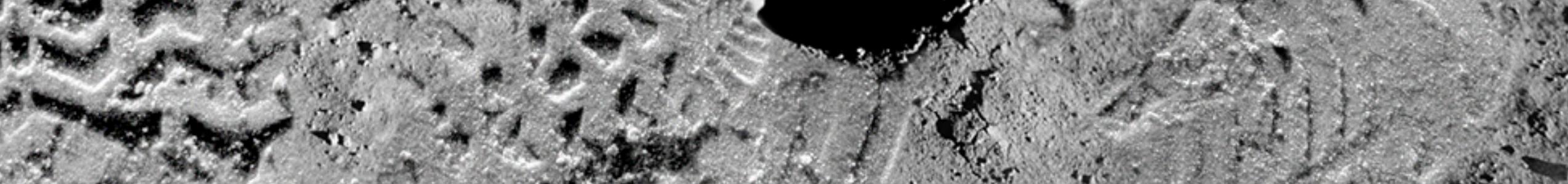
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# That's one small step for man. And one giant mistake if we don't protect it.

Plans to land civilians and vehicles on the Moon threaten to desecrate six pristine Apollo Lunar landing sites. The UN has safeguarded other irreplaceable property here on Earth. Doesn't the Moon deserve the same protection? Take the next small step.

Go to [ForAllMoonkind.org](http://ForAllMoonkind.org) if you agree.



[ForAllMoonkind.org](http://ForAllMoonkind.org)





# International Law

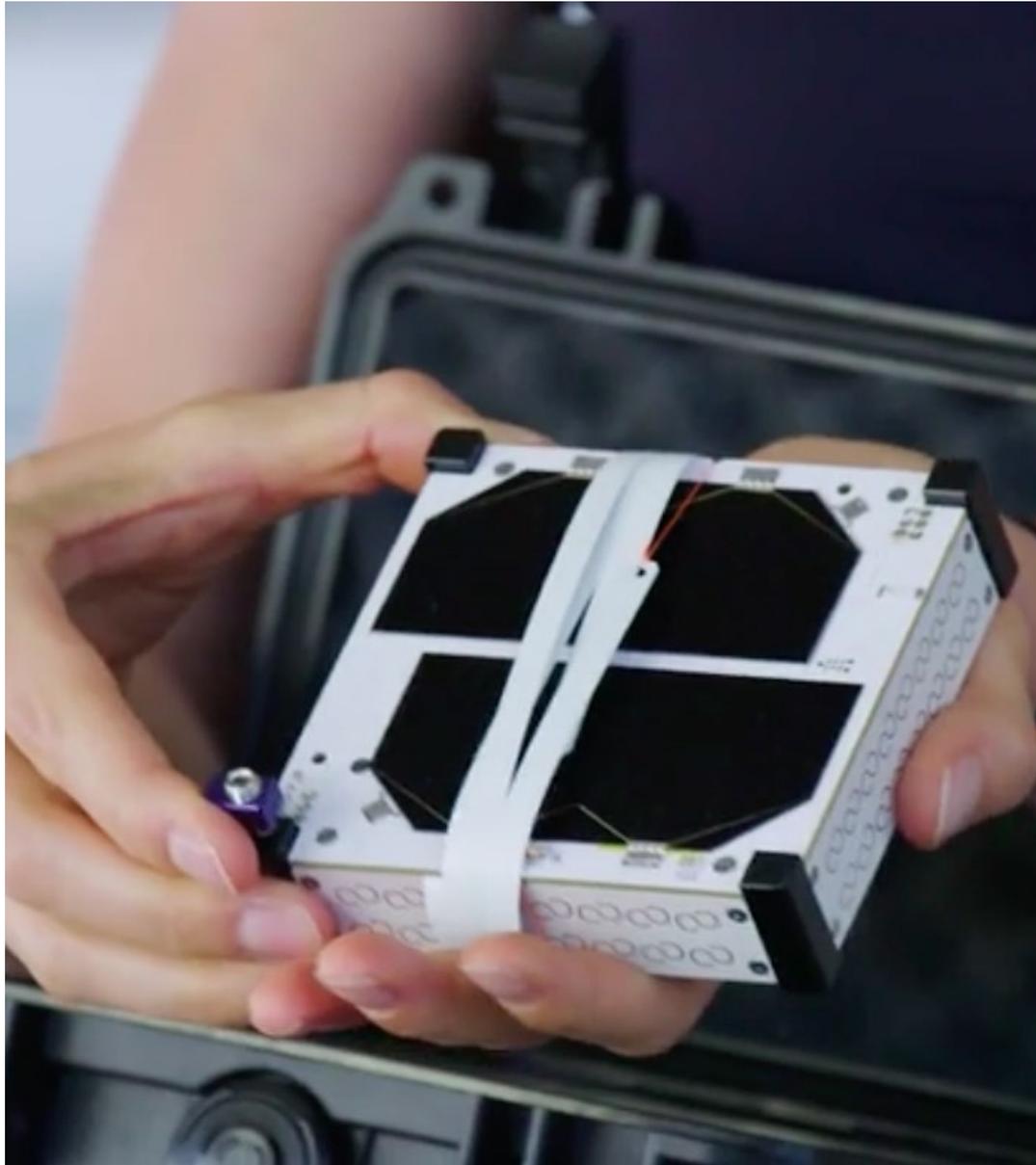
- Outer Space Treaty
- Liability Convention
- Registration Convention
- Rescue and Return Agreement
  - All are silent with respect to the utilization of resources, in situ or otherwise.
  - But they do affirm the concept that no nation may claim sovereignty over any territory in space.
  - And require authorization and supervision.
- Moon Agreement

# Article I

- 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***.
- Outer space, including the moon and other celestial bodies, shall be ***free for exploration and use by all States*** without discrimination of any kind, on a basis of equality and in accordance with international law, ***and there shall be free access to all areas of celestial bodies***.
- There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

# Article II

- 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.***



## Article VI

- States bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, ***whether the such activities are carried on by governmental agencies or by non-governmental entities.***
- States are required to ***authorize and continue to supervise all non-governmental entities.***



## Article VII Liability for Damage to a Space Object

- Entities can be liable “in the event of damage being caused” to a “space object.”
- Negligence standard for damage occurring in space (Liability Convention).
- Drawn out, diplomatic process, consultations and ultimately a “Commission” – nonbinding.

# Article IX: Due Regard to the corresponding interests of all other States Parties

what are other words for due regard?



respect, politeness, courtesy, civility, deference, respects, respect, consideration, thoughtfulness, attentiveness



 Thesaurus.plus

# Due Regard

The ordinary meaning of “due regard” calls for the first State to have such regard for the rights of the second State as is called for by the circumstances and by the nature of those rights. **The Tribunal declines to find in this formulation any universal rule of conduct.** The Convention does not impose a uniform obligation to avoid any impairment of the second State’s rights; nor does it uniformly permit the first State to proceed as it wishes, merely noting such rights. **Rather, the extent of the regard required by the Convention will depend upon the nature of the rights held by the second State, their importance, the extent of the anticipated impairment, the nature and importance of the activities contemplated by the first State, and the availability of alternative approaches.**

Chagos Marine Protected Area Arbitration (Mauritius v United Kingdom), 18 March 2015

# US Law (2015)

- 51 U.S.C § 51301
  - In this chapter:
    - (1) Asteroid resource.--The term `asteroid resource' means a space resource found on or within a single asteroid
    - (2) Space resource.—
      - (A) In general.--The term `space resource' means an abiotic resource in situ in outer space
      - (B) Inclusions.—The term `space resource' includes water and minerals.
- 51 U.S.C. § 51303
  - ``A United States citizen engaged in commercial recovery of an asteroid resource or space resource under this chapter **shall be entitled to any asteroid resource or space resource obtained, including to possess, own, transport, use, and sell** the asteroid resource or space resource obtained in accordance with applicable law, including the international obligations of the United States."

# Luxembourg Space Resources Law (2017)

- Space resources are capable of being appropriated.
- It is notable that unlike its U.S. counterpart, the Luxembourg Space Resource Law does not provide a definition of space resources or asteroid resources.
- However, the explanatory document published with the initial draft of the Luxembourg Law took the definition established in the U.S. Act to be the “common definition” of those terms.

# UAE Law on the Regulation of the Space Sector (2020)

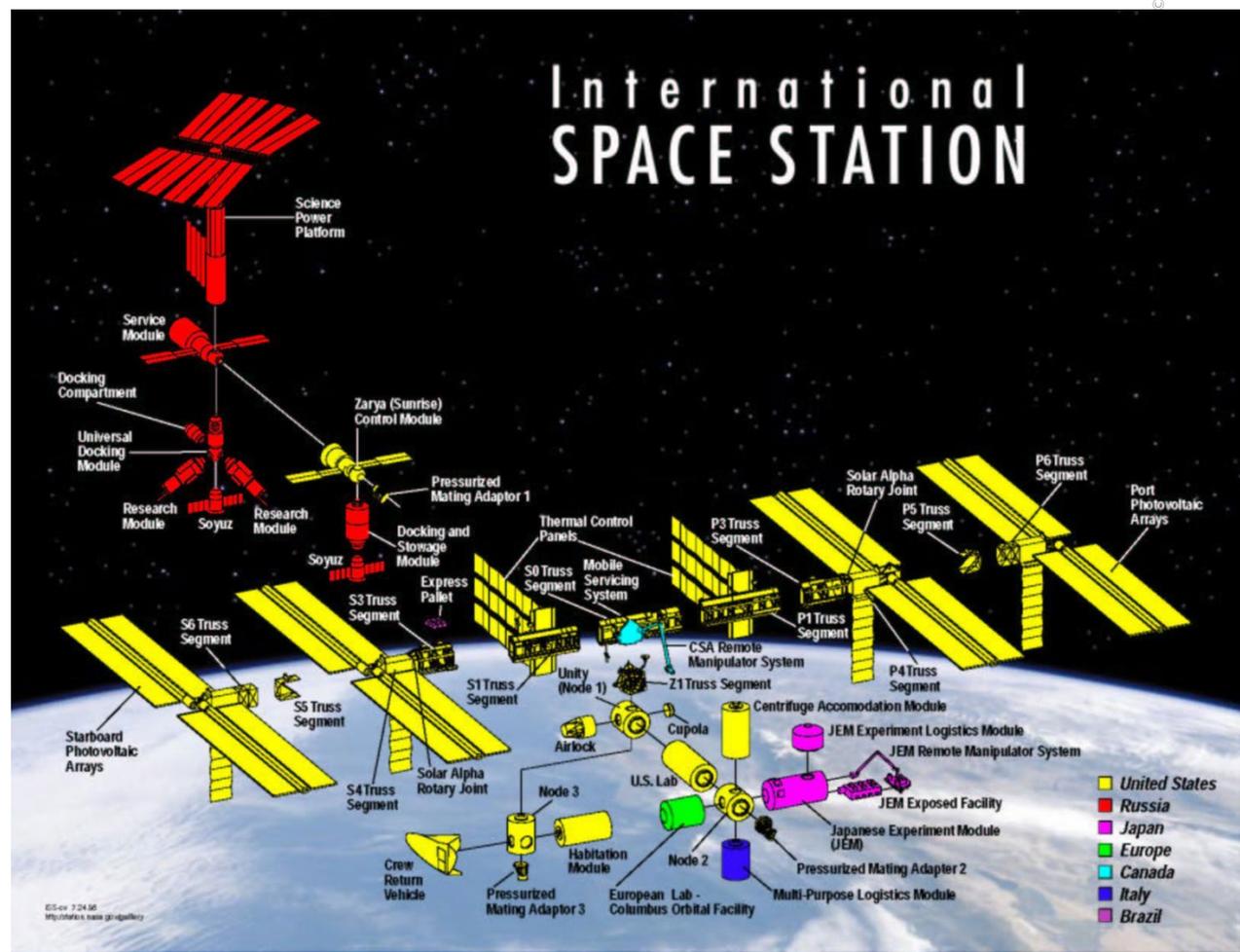
- Space Resources: Any non-living resources present in outer space, including minerals and water.
- “regulated activities” includes space resource exploration or extraction activities.
- **Article 18- Extraction, Exploitation and Utilization of Space Resources**
  - The terms and conditions relating to Authorization for the extraction, exploitation and utilization of Space Resources, including their ownership, purchase, sale, trade, transportation, storage and any Space Activities aimed at providing logistical services in this regard shall be determined by a Decision issued by the Council of Ministers or whomever it delegates.

# April 6 Executive Order on Encouraging International Support for the Recovery and Use of Space Resources

- 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.

# What are the Artemis Accords?

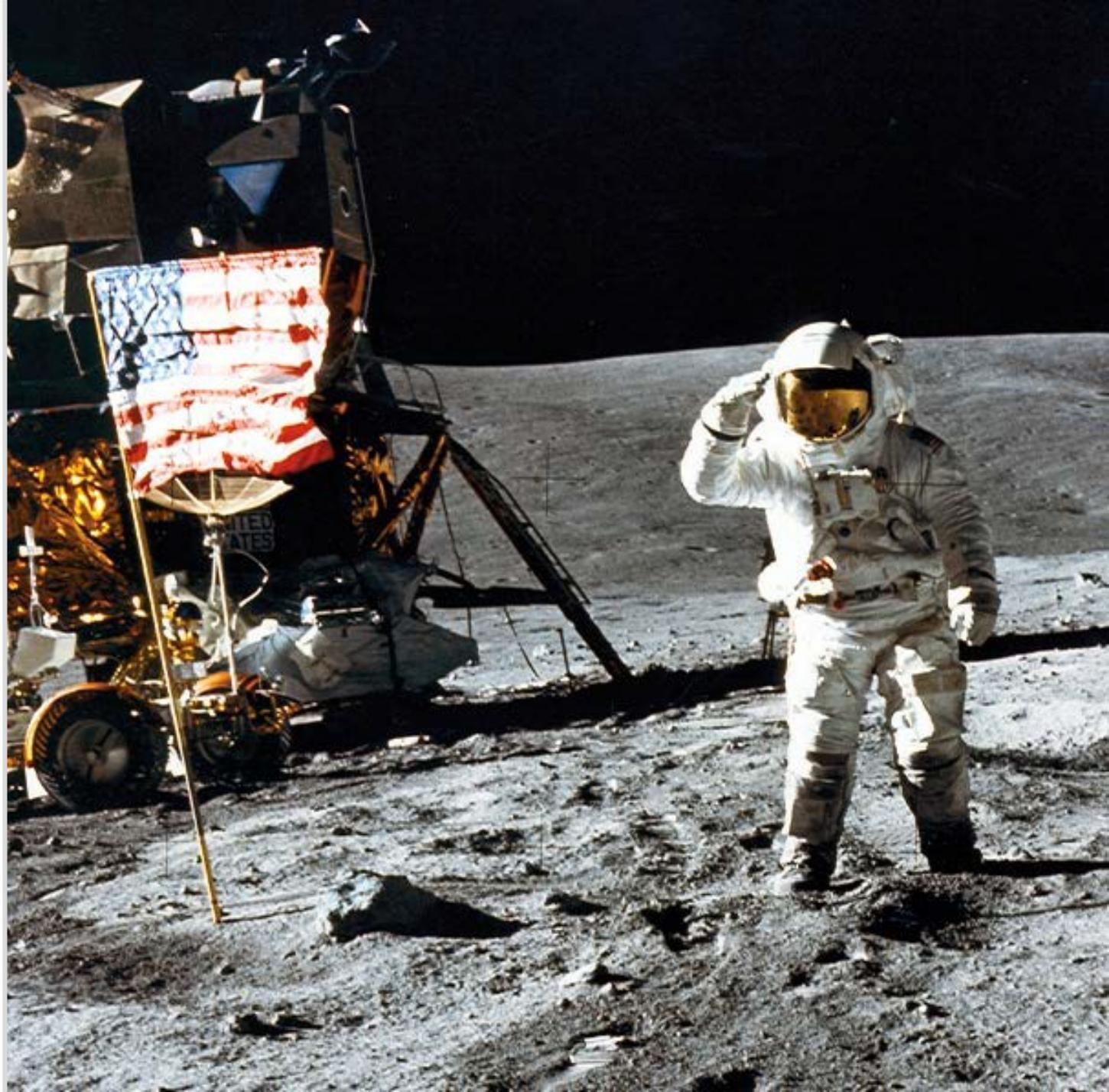
- “Principles for a Safe, Peaceful, and Prosperous Future.”
  - NOT a binding agreement or Treaty
  - NOT a contract or even proposed contract terms
- Intergovernmental Agreement for ISS
  - Good model for Gateway, but more complexities for lunar surface.
- Framework for cooperative agreements being negotiated now.



# Protecting Heritage

Protecting historic sites and artifacts will be just as important in space as it is here on Earth.

Therefore, under Artemis Accords agreements, NASA and partner nations will commit to the protection of sites and artifacts with historic value.



ARTEMIS



## Space Resources

The ability to extract and utilize resources on the Moon, Mars, and asteroids will be critical to support safe and sustainable space exploration and development.

The Artemis Accords reinforce that space resource extraction and utilization can and will be conducted under the auspices of the Outer Space Treaty, with specific emphasis on Articles II, VI, and XI.

ARTEMIS

# Deconfliction of Activities

Avoiding harmful interference is an important principle of the Outer Space Treaty, which is implemented by the Artemis Accords.

Specifically, via the Artemis Accords, NASA and partner nations will provide public information regarding the location and general nature of operations which will inform the scale and scope of 'Safety Zones'.

Notification and coordination between partner nations to respect such safety zones will prevent harmful interference, implementing Article IX of the Outer Space Treaty and reinforcing the principle of due regard.

ARTEMIS

***Reaffirming OST Article IX – Due regard and avoid harmful interference.***



# **The Artemis Accords Principles For Cooperation In The Exploration And Use Of The Moon, Mars, Comets, And Asteroids For Peaceful Purposes**

# Section 11 – Deconfliction of Activities

- 1. The Signatories acknowledge and reaffirm their commitment to the Outer Space Treaty, including those provisions relating to **due regard and harmful interference**.
- 2. The Signatories affirm that the exploration and use of outer space should be conducted with due consideration to the United Nations Guidelines for the Long-term Sustainability of Outer Space Activities adopted by the COPUOS in 2019, with appropriate changes to reflect the nature of operations beyond low-Earth orbit.
- 3. Consistent with Article IX of the Outer Space Treaty, **a Signatory authorizing an activity under these Accords commits to respect the principle of due regard**. A Signatory to these Accords with reason to believe that it may suffer, or has suffered, harmful interference, may request consultations with a Signatory or any other Party to the Outer Space Treaty authorizing the activity.
- 4. The Signatories commit to seek to refrain from any intentional actions that may create harmful interference with each other's use of outer space in their activities under these Accords.
- 5. The Signatories commit to provide each other with necessary information regarding the location and nature of space-based activities under these Accords if a Signatory has reason to believe that the other Signatories activities may result in harmful interference with or pose a safety hazard to its space-based activities.

# Section 11 – Deconfliction of Activities

- 6. The Signatories intend to use their experience under the Accords to contribute to multilateral efforts to further develop international practices, criteria, and rules applicable to the definition and determination **of safety zones** and harmful interference.
- 7. In order to implement their obligations under the Outer Space Treaty, the Signatories intend to provide notification of their activities and commit to coordinating with any relevant actor to avoid harmful interference. The area wherein this notification and coordination will be implemented to avoid harmful interference is referred to as a safe one. A safe one should be the area in which nominal operations of a relevant activity or an anomalous event could reasonably cause harmful interference. The Signatories intend to observe the following principles related to safety zones:
  - (a) The size and scope of the safety zone, as well as the notice and coordination, should reflect the nature of the operations being conducted and the environment that such operations are conducted in;
  - (b) The size and scope of the safety zone should be determined in a reasonable manner leveraging commonly accepted scientific and engineering principles;
  - (c) The nature and existence of safety zones is expected to change over time reflecting the status of the relevant operation. If the nature of an operation changes, the operating Signatory should alter the size and scope of the corresponding safety zone as appropriate. Safety zones will ultimately be temporary, ending when the relevant operation ceases; and
  - (d) The Signatories should promptly notify each other as well as the Secretary-General of the United Nations of the establishment, alteration, or end of any safety zone, consistent with Article XI of the Outer Space Treaty.

# Section 11 – Deconfliction of Activities

- 8. The Signatory maintaining a safety zone commits, upon request, to provide any Signatory with the basis for the area in accordance with the national rules and regulations applicable to each Signatory.
- 9. The Signatory establishing, maintaining, or ending a safety zone should do so in a manner that protects public and private personnel, equipment, and operations from harmful interference. The Signatories should, as appropriate, make relevant information regarding such safety zones, including the extent and general nature of operations taking place within them, available to the public as soon as practicable and feasible, while taking into account appropriate protections for proprietary and export-controlled information.
- 10. The Signatories commit to **respect reasonable safety zones** to avoid harmful interference with operations under these Accords, including by providing prior notification to and coordinating with each other before conducting operations in a safety zone established pursuant to these Accords.
- 11. The Signatories commit to use safety zones, **which will be expected to change, evolve, or end based on the status of the specific activity, in a manner that encourages scientific discovery and technology demonstration, as well as the safe and efficient extraction and utilization of space resources in support of sustainable space exploration and other operations.** The Signatories commit to respect the principle of free access to all areas of celestial bodies and all other provisions of the Outer Space Treaty in their use of safety zones. The Signatories further commit to adjust their usage of safety zones over time based on mutual experiences and consultations with each other and the international community.

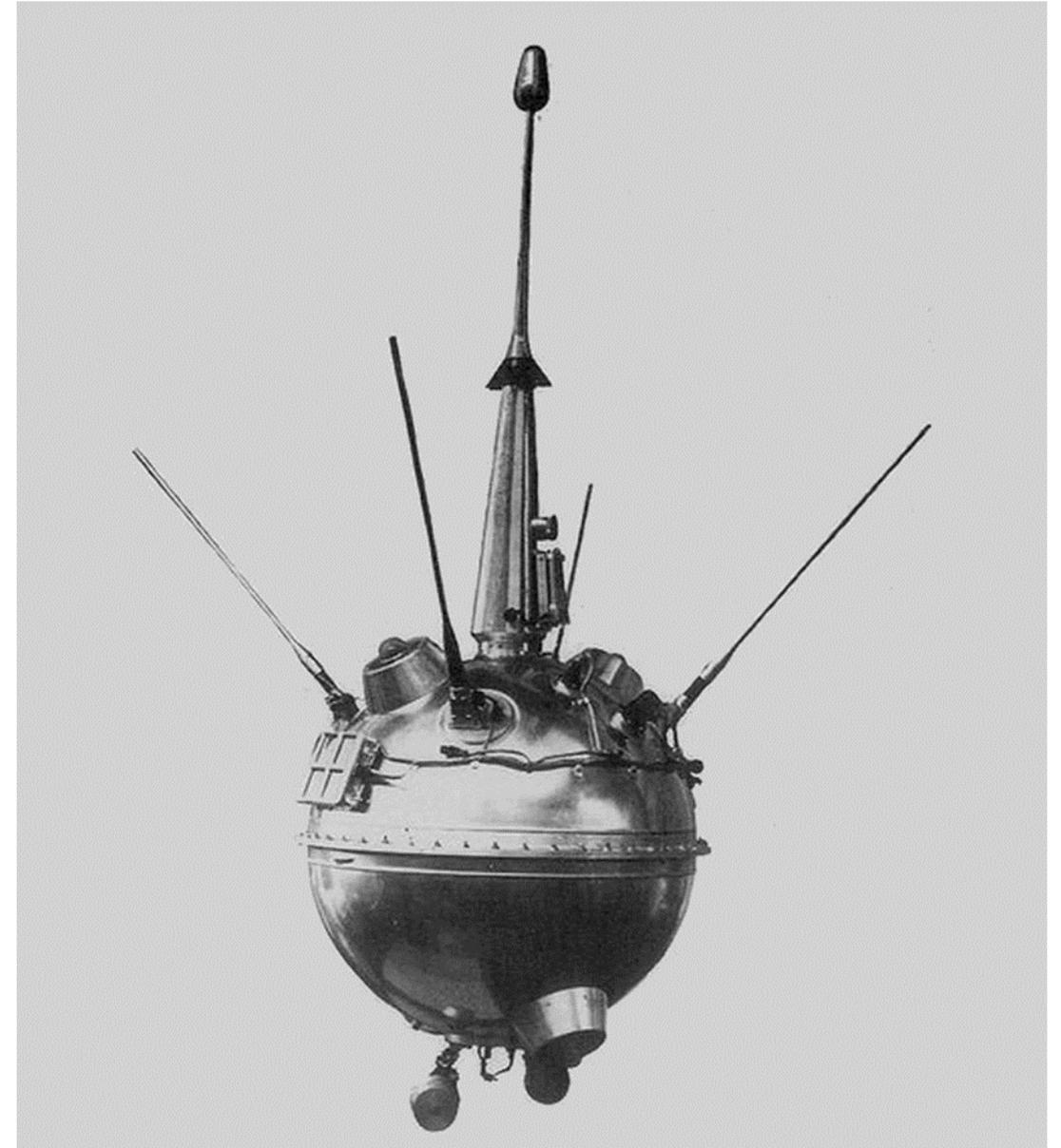
# Artemis Accords Founding Signatories

- Australia.
- Canada.
- Italy.
- Japan.
- Luxembourg.
- United Arab Emirates.
- United Kingdom.
- United States of America.

# Russian Law

- “[i]n the immediate vicinity of a space object of the Russian Federation within the bounds of a zone minimally necessary for the guarantee of security [or safety] of space activity, rules may be established, which are obligatory for Russian and foreign organizations and citizens.”

Закон Российской Федерации о Космической Деятельности [Law of the Russian Federation on Space Activity], Aug. 20, 1993, No. 5663-1 (as amended by Federal Law No. 54-ФЗ, Apr. 15, 2019), art. 17(5).



## Section 9 – Preserving Outer Space Heritage

- The Signatories intend to preserve outer space heritage, which they consider to comprise historically significant human or robotic landing sites, artifacts, spacecraft, and other evidence of activity on celestial bodies in accordance with mutually developed standards and practices.
- The Signatories intend to use their experience under the Accords to contribute to multilateral efforts to further develop international practices and rules applicable to preserving outer space heritage.

# Purchase of Lunar Regolith and/or Rock Materials from Contractor

- The Contractor shall:
  - 1. Collect from 50g up to 500g of Lunar regolith and/or rock materials (“Collected Material”) from the surface of the Moon (Luna).
    - a. Be responsible for performing all activities necessary, including:
      - 1. Determining method(s), providing and or developing equipment, deployment/launch/landing, and operation of all systems the Contractor’s method(s) requires. (this purchase does not include development, production, or launch of space vehicles)
      - 2. Identify, negotiate, and conclude, all necessary agreements and approvals for the Contractor’s method and all associated systems, personnel, and operations.
  - 2. Provide imagery to NASA of the collection and the Collected Material, and data that identifies the collection location on the Lunar surface.
  - 3. Provide the Collected Material to NASA upon its collection from the Lunar surface by in-place ownership transfer from Contractor to NASA. After ownership transfer the collected material becomes the sole property of NASA for use as NASA may determine

# NASA Selected Four Companies

- Lunar Outpost proposed collection for \$1 following arrival of a lander to the lunar South Pole in 2023.
- ispace Japan proposed collection for \$5,000 following arrival in 2022 of a lander to Lacus Somniorum on the Moon's northeastern near side.
- ispace Europe proposed collection for \$5,000 following arrival in 2023 of a lander to the lunar South Pole.
- Masten Space Systems proposed collection for \$15,000 following arrival in 2023 of a lander to the lunar South Pole.



# S.1694/H.R.3766

## One Small Step to Protect Human Heritage in Space Act.

A bill to require any Federal agency that issues licenses to conduct activities in outer space to include in the requirements for such licenses an agreement relating to the preservation and protection of the Apollo 11 landing site, and for other purposes.

**Senator Peters, Senator Cruz**



National Aeronautics and Space Administration

# **NASA's Recommendations to Space-Faring Entities: How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts**

**Release: July 20, 2011**



# One Small Step Law

- (1) as commercial enterprises and more countries acquire the ability to land on the Moon, it is necessary to encourage the development of best practices to respect the principle of due regard and to limit harmful interference to the Apollo landing site artifacts in acknowledgment of the human effort and innovation they represent, as well as their archaeological, anthropological, historical, scientific, and engineering significance and value; and
- (2) the Administrator of the National Aeronautics and Space Administration **should continue to develop best practices to respect the principle of due regard** and limit harmful interference with historic Apollo lunar landing site artifacts.

# Developing Custom

- Parallel to current events.
- Commercial activities will contribute to the evolution of the concept of due regard.
- **Unprecedented opportunity** for commerce to guide regulation.

# Contact me:

- [michelle@forallmoonkind.org](mailto:michelle@forallmoonkind.org)

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