INTERNATIONAL COURT OF JUSTICE

THE PEACEPALACE
THE HAGUE, THE NETHERLANDS

THE 2013 MANFRED LACHS SPACE LAW
MOOT COURT COMPETITION
TEAM No. 4

THE CASE CONCERNING "THE OPERATION OF A LUNAR STATION"

The State of Lydios
(Applicant)

v.

The State of Endymion
(Respondent)

MEMORIAL FOR THE APPLICANT

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Questions Presented

A. Whether Endymion violated international law by failing to vacate Luna-1 when demanded by Lydios..

B. Whether Lydios violated international law by promulgating the Moon Protection Act.

C. Whether Lydios acted in conformity with international space law by refusing to grant permission for the Bennu to dock at Diana.

D. Whether Lydios is liable for damages to Endymion for Kandetta's failed twin probes.

Statement of Facts

1) Lydios has established and operated a manned complex, Luna-1, located on Moon. Each of the Lydios spacecraft launched from the Earth to Luna-1 as well as the lunar facilities constructed at Luna-1 were registered by Lydios and entered into the UN registry.

2) In the last decade of the 20th century, the Lydios economy suffered a substantial decline, which resulted in the reduction of the budget for Luna-1.

3) Hekate is a non-governmental pro-environment organization founded and headquartered in Lydios in 1990. Since its founding, Hekate has opposed exploration and use of the Moon, including the Luna-1 project. Luna-1 was founded on or before 1990. Ten years after the initiation of full operation of Luna-1, Hekate declared that it intended to procure and place its own remote sensing satellite in lunar orbit to more closely monitor activities that could disrupt the environment of the Moon.

4) Kandetta is politically isolated. It has diplomatic relations with only a handful of States such as Endymion. Kandetta suffered failed launches, which outnumbered the successful missions by a two to one ratio (66% failure rate). Kandetta had sought to enter the international launch services market, but most States refused to allow their nationals to launch payloads on the unreliable Kandetta launch vehicles, citing safety and foreign policy reasons. Kandetta's only test of a prototype launch vehicle for manned missions ended in disaster when the rocket exploded three seconds after lift-off.

5) A majority of Toriton Space Co. shares is owned by Kandetta. which contracted to build a lunar orbiting satellite with a 0.5 meter multi-spectral resolution. It was to be built on a cost-only basis, provided that images could only be taken by that satellite with prior approval of Kandetta. In addition, the contract specified that all images shall be furnished to Kandetta prior to any distribution or public use.

6) The Lydios government had not allowed any of its nationals to use Kandetta launch vehicles as a matter of foreign policy.

7) The Kandetta spacecraft Bennu would have the capability to travel from Earth orbit to lunar orbit and also to installations on the lunar surface.The use of the Artemis platform by Kandetta was secured by an affirmative response from Endymion and 12 additional members of the AOA.

8) Lydios objectedtoKandetta using Artemis. Kandetta assured Endymion that in the event Endymion decided to engage in lunar exploration, development and use, the Toriton-1 satellite would not be used to monitor those activities.

9) The Lydios economic downturn continued into the 21st century. Lydios declared that it was was abandoning the Luna-1 facility "to the States parties to the Outer Space Treaty." Fortuna, was near the area where Messenger-3 was believed to be located.

10) The lunar tourist package developed by Endymion proposed to utilize Fortuna as a base camp. Excursions would be conducted by Endymion to other Luna-1 buildings and structures as well as the lunar surface area in proximity to the complex. Tourists,

staff and other visitors would arrive by a fleet of spacecraft. The docking ports in the Luna-1 structures were compatible with certain docking mechanisms other than Lydios' proprietary design, however the Lydios proprietary design was the most economical to manufacture and operate. Lydios licensed the right to use this docking port design to the AOA. Lydios, Endymion and the three other member States of the AOA which operated manned reusable transport vehicles to the Artemis platform utilized this standardized common docking port design. Lydios substantially benefited from royalty fees from this intellectual property. Lydios had a right to collect fees for the port design.

11) Even the most advanced project by other nations had not progressed beyond initial preparatory missions, and none of the structures of Luna-1 utilized by these nations were operational or effectively occupied.

12) In December 2007, the Lydios government declared its intention to return to the Moon and to reactivate a lunar resource processing facility, Diana, at Luna-1. By November 2008, Lydios had returned to Diana and was processing lunar resources to produce oxygen and hydrogen. Diana and Fortuna, are both situated in Luna-1 complex.

13) In August 2010, Kandetta announced that it would launch two twin probes from the Artemis platform to explore Comet Donkelson, a short-period comet with an orbit of 20 years. Kandetta based the design of Bennu on elements derived from several of Lydios' spacecraft. Certain elements, such as the docking mechanism had been copied without modification from the Lydios original proprietary designs. This docking mechanism was indistinguishable from the docking port licensed to the AOA. Not

being a member of the AOA, it was clear that Kandetta had surreptitiously obtained the design drawings and specifications.

14) Images obtained by Kandetta's Toriton-1 showed that Luna-1 development activities by Lydios had caused changes to the lunar surface and subsurface.

15) In January 2012, the President of Lydios formally declared "all activities on the Moon, especially commercial activities, shall be superseded by the utmost necessity to take precautionary measures to preserve the highly fragile environment of the Moon." Lydios took staged steps to terminate operations at the Luna-1 facility. Lydios declared that it intended to take active measures to safeguard the Moon's historical and scientific heritage, and to protect landing and return sites, rovers, robots, scientific equipment, and specific vestiges such as footprints and rover tracks.

16) Lydios promulgated the Moon Protection Act (MPA) in April 2012. The MPA designated 23 three-dimensional buffer zones requiring prior approval of Lydios to enter, including the Luna-1 and Messenger-3 area consolidated into one zone, and 16 additional zones for separate objects launched by Lydios, as well as the six sites of the United States' Apollo landings. The MPA prohibited tourism and other commercial activities until specific international agreements are adopted to regulate them. The buffer zones were designated as one to five km in all three dimensions from the designated object or area, with the size and altitude of individual buffer zones determined pursuant to the size, nature, and scientific and historic importance of the specific artefacts. The final provision of the MPA reaffirmed Lydios' jurisdiction and control of the Luna-1 facility, and demanded that all States occupying or using any

structure within Luna-1 cease and desist their activities and vacate the zone within six months.

17) Endymion informed Lydios by diplomatic note that it did not recognize the authority of Lydios to impose the MPA on Endymion's activities, and that Endymion would not be bound by the MPA. Endymion began to advertise tours to Luna-1 including an excursion to Messenger-3. In September 2012, Endymion sent a group of government officials to Fortuna for a one-week tour of Luna-1 and the surrounding areas. Included in the tour sites visited were Messenger-3 and other buildings within Luna-1.

18) In November 2012, beyond 6 months given in the MPA for Endymion to leave Fortuna, Kandetta conducted the second launch of the Bennu transport vehicle to Artemis. Mr. Billippo was a paying tourist, not an astronaut or personnel. Bennu also carried the two comet probes for deployment. During pre-deployment checkout of the two twin probes while Bennu was en route to Artemis, the crew determined that one of the probes had developed a very slow propellant leak. Bennu's crew had the ability to repair the leak and refill the probe's fuel tank with propellant from Bennu's own tanks. However, if that was done, Bennu would not have sufficient propellant to dock at Artemis, deploy both space probes, and safely return to Earth. Bennu had the capability to travel directly to Luna-1 and refuel from resources processed at its facilities. If refueling was successful, Bennucould dock at Artemis, deploy both probes and safely return to Earth. If the refueling was not successful, Bennu would have sufficient propellant to return to Earth.

19) The commander of Bennu, Mr. N. Pekki, decided to request refueling from the Diana facility, to visit Diana and to obtain propellant. Only after this request was denied, Mr.Pekki repeated his request, and added that the propellant was necessary for the lives and safety of the personnel of the spacecraft. Ms.Ushojon again refused.

20) Mr.Pekki then contacted Fortuna, and requested permission to dock and obtain propellant, which request was granted. Upon arrival, however, a malfunction occurred in the docking mechanism of Fortuna, which prevented Bennu from successfully docking. After several attempts, Mr.Pekki aborted the effort as it was consuming and depleting fuel. However, during but not necessary as a result of the attempted dockings, the docking mechanism on Bennu was damaged and rendered inoperable. Unable to dock with either Fortuna or Artemis, the Bennu returned to Earth. The space probes Bennu was transporting could not be deployed, and with the launch window closed, Kandetta declared the mission a failure.

21) An investigation panel convened by the AOA concluded that the inability of Bennu to dock with Fortuna was caused by the use of the wrong fluid in a sealed canister in the hydraulic systems of the docking mechanism on Fortuna when it was constructed by Lydios. The correct fluid would support an unlimited number of dockings. The wrong fluid degraded with each use, and eventually failed after more than 20 years of use.

22) Six months after the AOA investigation panel released its findings, Kandetta filed a formal claim with Endymion for damages for the loss of the twin probes. Endymion promptly delivered a diplomatic note to Lydios demanding that Lydios indemnify Endymion for any amounts it may pay to Kandetta for damages to the two probes.

Endymion delivered a formal protest to Lydios for the refusal to grant permission for Bennu to dock and stated that such refusal placed the life and safety of Mr.Billippo, as well as the Kandetta crew, in jeopardy. Lydios responded by delivering a letter to the Endymion ambassador stating that Endymion's continued use or occupancy of Luna-1, including Fortuna, was unauthorized and that Endymion must immediately vacate Luna-1. Lydios also stated that it was not responsible for the failed deployment of the twin probes.

23) Lydios and Endymion are States Parties to the 1967 Outer Space Treaty, the 1968 Return and Rescue Agreement, the 1972 Liability Convention, and the 1975 Registration Convention. Endymion acceded to the 1979 Moon Agreement in 2005. Kandetta is a State Party to the Return and Rescue Agreement, but not to the other four UN treaties on outer space.

Summary of Arguments

I. ENDYMION VIOLATED INTERNATIONAL LAW BY FAILING TO COMPLY WITH THE MOON PROTECTION ACT INCLUDING THE FAILURE TO VACATE LUNA-1 WHEN DEMANDED BY LYDIOS

1. Applicant as a State of Registry enjoys full and exclusive jurisdiction over Luna-1 in accordance with OST Art. VIII and RC Art. II(2), and therefore is entitled under *lex specialis* to promulgate domestic legislation regulating the activities in the facilities and applying to the personnel therein. Moreover, the power of Applicant to exercise legislative authority was neither affected by its unilateral declaration to abandon Luna-1, nor by the presence of Respondent. Alternatively, fundamental changes of circumstances have occurred since 2005 and allow Applicant to revoke its declaration of abandonment in accordance with general international law.

2. The Moon Protection Act [hereinafter MPA] implements a norm possessing *erga omnes* character under *lex specialis*, namely the obligation to protect the Global Public Interest in Outer Space, and therefore is binding upon all states. The absence of vigorous protest against the MPA, as it is normally the case in the event of unjustified claim of jurisdiction over the Outer Space, implicitly confirms the existence of such norm, and brings further acquiescence of the obligation to comply with the Moon Protection Act. The protests formulated by the Respondant against the MPA are ineffective since they contradicts a norm of *erga omnes* character. Alternatively, Applicant is allowed to promulgate extra-territorial measures under international environmental as confirmed in State practice and *opinio juris*.

3. The creation of buffer zones and the obligation to suspend commercial activities therein are in accordance with international space law, including the principle of freedom of exploration and use (Art. I OST), the principle of non-appropriation (Art. II OST), the principle of international cooperation (Art. IX OST), and the principle of due-regard (Art. IX OST). The MPA is also in accordance with principles of general international law, including the principle of State sovereignty and the principle of non-intervention.

4. Finally, since international space law does not provide for any right to occupy Luna-1 on a permanent basis, Applicant as a State of Registry is allowed to request Respondent to vacate the facilities within 6 months. By refusing to vacate Luna-1, Respondent breach of its duty to fulfill its obligations both under both international space law and general international law in 'good faith'.

II. LYDIOS ACTED IN CONFORMITY WITH INTERNATIONAL LAW BY DECLINING TO GRANT PERMISSION FOR THE BENNU TO DOCK AT DIANA

1. The Rescue Agreement Article 3 requirements were not fulfilled, therefore Applicant did not have the obligation to grant Bennu access to dock. In particular, no rescue was "necessary" despite the Bennu Commander's bad faith assertion to the contrary. Moreover, Diana was not "in a position" to assistbecause it had to follow the obligation to preserve the Moon environment and had to consider financial constraints and safety risks. Further, the Bennu had not yet "alighted."

2. Lydios did not have the duty to allow Bennu to dock at Diana to refuel under Article 2 or Article 4 of the Rescue Agreement because there was no "accident, distress, emergency or

unintended landing" to trigger the obligation to provide assistance. In addition, events did not take place in the territory of Lydios as required by Article 2, and there was no obligation on behalf of Lydios to return personnel to representatives of the launching authority under Article 4.

3. The Outer Space Treaty Article V obligation to return and assist did not require Lydios to allow Bennu to dock. First, the Bennu had not suffered an accident, distress or emergency landing on Earth. Second, Kandetta is not a State Party to the Outer Space Treaty. Third, assistance was not possible at the discretion of the Lydios commanderand last the sections of the Outer Space Treaty dealing with return and rescue have been superseded by the Rescue Agreement.

4. Lydios did not infringe the Outer Space Treaty Article XII obligation to allow a State Party diplomatic visit. First, Kandetta is not a State Party. Second, a paying tourist is not a state representative. Third, Kandetta did not give reasonable advance notice of a visit and fourth Kandetta did not satisfy to the principle of reciprocity.

III. LYDIOS IS NOT LIABLE FOR DAMAGES FOR THE FAILED DEPLOYMENT OF KANDETTA'S TWIN PROBES

1. In order to receive compensation under the Liability Convention, Endymion must prove it suffered damages for which Lydios was at fault. In addition, a causal link must existbetween the fault and the damage. To the contrary, Endymion has not suffered damage and the failed deployment of the probes was caused primarily by Kandetta and in part by Endymion. Thus, in the absence of fault which allegedly caused damage to Endymion, Lydioscan not be held liable for the failed deployment of the probes.

2. Endymion lacks *jus standi*and has no legitimate interest to present a claim against Lydios because it has suffered no actual, materialized damage. The claim for indemnity against Kandetta is purely speculative because the claim brought by Kandetta against Endymion is not yet settled and Endymion has reasonable defences to avoid its liability to Kandetta.

3. Endymion lacks proof that Lydios was at fault. In this respect, the decision of Lydios not to permit the Bennu to Dock at Diana does not constitute fault, similarly as the malfunctioning of the docking port mechanism does not constitute fault.

4. Endymion has not established proof of causal link between its supposed damage and the alleged fault of Lydios. The initial leak of Kandetta's first probe is the primary cause of the failed mission. By acting negligently Kandetta contributed to its own damage, and Endymion'sunlawful occupation of Fortuna was an intervening cause of the damage.

Arguments

I. ENDYMION VIOLATED INTERNATIONAL LAW BY FAILING TO COMPLY WITH THE MOON PROTECTION ACT INCLUDING THE FAILURE TO VACATE LUNA-1 WHEN DEMANDED BY LYDIOS

By promulgating the Moon Protection Act (hereinafter MPA) and demanding that Respondent vacates Luna-1 installation, Applicant acted in accordance with international law[1] (1.) To the contrary, Respondent violated international law by refusing to vacate Luna-1 (2.)

1. LYDIOS' DECISION TO PROMULGATE THE MPA AND THE MOON PROTECTION ACT IN ITSELF ARE CONSISTENT WITH INTERNATIONAL SPACE LAW AS THE LEXSPECIALIS APPLICABLE TO THE GIVEN FACTS

Lydios submits that it was entitled to promulgate the MPA under relevant provisions of international space law as the *lex specialis* applicable to the given facts (1.1.) Lydios additionally submits that the content of MPA, mainly the obligation to vacate Luna-1, is in accordance with international space law and general international law (1.2).

1.1. By promulgating the MPA, Lydios lawfully exercised quasi-jurisdiction over its registered space object in complete accordance with international space law

Lydios registered several objects in accordance with international and therefore is entitled to exercise legislative jurisdiction (1.1.1.) Additionally, Lydios' power to exercise legislative authority over Luna-1 was not affected by its unilateral declaration to abandon the facilities (1.1.2), by the presence of Endymion (1.1.3.) or the transfer of ownership of Messenger-3 (1.1.4.).

[1] INTERNATIONAL STATUTE OF THE COURT OF JUSTICE, (hereinafter ICJ Statute), art.38 (1).

1.1.1. Lydios retains exclusive jurisdiction over the space object carried out in its registry in accordance with OST Article VIII and Article II RC

The basis for jurisdiction over a space object and any personnel therein is the registration of that object in accordance with Article III of the Outer Space Treaty (hereinafter OST) and the Registration Convention (hereinafter RC).[2] The term "jurisdiction" means the exclusive right and ability to legislate and enforce laws in relation to persons and objects.[3] Accordingly, the registration of Luna-1 in accordance with RC[4] confers Lydios the right as a State of Registry to promulgate the MPA.[5] The jurisdiction over a space object is referred to as quasi-jurisdiction.[6]

1.1.2. The unilateral declaration of 2005 to abandon Luna-1 to the States parties to the OST did not affect Lydios' jurisdiction as a State of Registry

A space object can not be abandoned to become a *res nullius* as it remains the property of the state of registry,[7] Lydios in present case. Applicant consequently submits that international space law does not provide for the possibility to waive jurisdiction by

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[2]Setsuko Aoki, *In search of the current legal status of the registration of space objects*, *in* PROCEEDINGS OF THE FIFTY-THIRD COLLOQUIUM ON THE LAW OF OUTER SPACE, (Corinne M. Contant Jorgenson ed., 2010).

[3]Bernhard Schmidt-Tedd, Stephan Mick, *Article VIII of the Outer Space Treaty*, *in* I COLOGNE COMMENTARY ON SPACELAW, 157 (Stephan Hobe, Bernhard Schmidt-Tedd& Kai-UweSchrogl eds., 2010) (hereinafter Art.VIIICoCoSL); Bin Cheng, STUDIES IN INTERNATIONAL SPACE LAW, 74 (1997) 74.

[4]Compromis,§4.

[5]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *entered into force* Oct. 10, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205, (hereinafter OST), art.VIII; Imre Anthony Csafabi, THE CONCEPT OF STATE JURISDICTION IN INTERNATIONAL SPACE LAW,108 (1971).

[6]Art. VIII CoCoSL, *supa* fn. 3, 44,157 (2009)

[7]Francis Lyall & Paul B. Larsen, SPACE LAW: A TREATISE 183 (2009)

abandoning a space object,[8] and therefore Lydios' unilateral declaration is invalid[9] *vis-à-vis* the applicable *lex specialis.*

Alternatively, the abandonment of a space object does not lead to the loss[10] or transfer of jurisdiction.[11] Further, it is widely supported in doctrine[12] and state practice[13] that a change of jurisdiction must be accompanied by a change in registry, which in present case never took place. Lydios never informed the UN Secretary-General about a change of status in accordance with Article IV(2) RC and the recommended state practice, as reflected in the UNGA resolution relating to registration of space objects.[14] The result of this reasoning is further in line with the 1974 Nuclear Test case in which this Court considered that "*when States make a statement by which their freedom of action is to be limited, a restrictive interpretation is called for*".[15]

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[8]Francis Lyall & Paul B. Larsen, ibid., 67, 310, (2009); Report of the International Interdisciplinary Congress on Space Debris Remediation and On-Orbit Satellite Servicing, Scientific and Technical Subcommittee, 49thSess., at 31, U.N. Doc. A/AC.105/C.1/2012/CRP.16.

[9]Fisheries Case (United Kingdom v. Norway), ICJ Reports 1951, p. 20.

[10]Francis Lyall & Paul B. Larsen, *supra* fn. 7, at 94.

[11]Art.VIII CoCoSL, *supra* fn. 3, at 157.

[12]Armel Kerrest, *Legal Aspects of Transfer of Ownership and Transfer of Activity, in Proceedings of the IISL and ECSL Space Law Symposium* (2012); Michael Chatzipanagiotis, *Registration of Space Objects and Transfer of Ownership in Orbit, 56* Z.L.W. 230, 232(2007); Art.VIII CoCoSL, *supra* fn.3, at 1*55;* Michael Gerhard, *Transfer of Operation and Control with Respect to Space Objects – Problems of Responsibility and Liability of States*, 51 Z.L.W. 571, 573 (2002).

[13]UNGA Res.62/101 Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects, 62th session, 17 December 2007, at 2(b)(ii).

[14] Ibid.

[15]Nuclear Tests Cases (Australia v. France) (New Zealand v. France) (Judgment) 1974, I.C.J. 253, 268 (Dec. 20), §47.

Applicant ultimately submits that the occupation of Luna-1 by Endymion for touristic purposes and the dramatic images released by Hekate constitute a fundamental change of circumstances for revoking the unilateral declaration in accordance with international law.[16]

1.1.3. By occupying and using Luna-1 since 2007, Endymion could not acquire any legal right or prerogative to the detriment of Lydios

OST Article II prohibits appropriation of celestial bodies "*by claim of sovereignty, by means of use or occupation or by any other means"*.[17] Being *res communis omnium,*[18] the purpose of this rule is to declare the traditional ways of acquiring a territory under general international law, namely discovery, *occupacio* and effective control,[19] inapplicable in Outer Space,[20] Accordingly, Endymion could not gain any right or prerogative by occupying Luna-1 facilities.

Additionally, the absence of effective control over a space object does not affect the right to exercise jurisdiction. RC Article II (1) of the RC does not require the launching state to control a space object in order to register it,[21] meaning that *de facto* control is not a

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[16]Vienna Convention on the Law of Treaties, *entered into force* Jan. 27, 1980, art. 62, 1155 U.N.T.S. 331, 8 I.L.M. 679 (hereinafter VCLT);

[17]Convention on the Registration of Objects Launched into Outer Space, *entered into force* Sept. 15, 1976, 28 U.S.T. 695, 1023 U.N.T.S. 15, (hereinafter RC), art.II.

[18]OST *travaux préparatoires*, U.N., GAOR, 13th Sess., at 615, U.N. Doc.A/PV.792 (1958); Chris Q. Christol, SPACE LAW: PAST, PRESENT AND FUTURE, 71 (1991).

[19]Fabio Tronchetti, *The Non-Apropritaion Principle Under Attack: Using Article II Of The Outer Space Treaty In Its Defence*, *in* PROCEEDINGS OF THE FIFTIETH COLLOQUIUM ON THE LAW OF OUTER SPACE, (Tanja Masson-Zwan ed., 2007), at 10.

[20]Ogunsola Ogunbanwo, INTERNATIONAL LAW AND OUTER SPACE ACTIVITIES, 63 (1975)

[21]RC, *supra* fn. 17, art.II.

condition to exercise *de iure* jurisdiction. In practice, States register and exercise jurisdiction over non-controllable objects (e.g. launch vehicle orbital stages).[22]

1.1.4. The transfer of ownership of Messenger-3 does not result in a transfer of jurisdiction

A transfer of ownership does not affect the responsibility or the liability of a State regarding a registered space objects.[23] This is due to the *lexs specialis* nature of the international space law as compared to general international law.[24] Consequently, although M. Bilippo possesses a certificate of ownership, Lydios retains jurisdiction over Messenger-3 as a State of Registry[25] since no change in the registry took place.[26]

1.2. By promulgating the MPA, Lydios exercised extra-jurisdiction over Apollo landing sites to avoid their harmful contamination in accordance with Article IX of the OST

Applicant submits that the expression "where necessary" interpreted in light with the object and purpose[27] of OST Article IX and *lex specialis* confers Lydios the power to promulgate extra-territorial legislation to avoid the harmful contamination (1.2.1) of Apollo

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[22]Note Verbale to the UN Registry submitted by France on 28 January 2004 (UN Doc. ST/SG/SER.E/445, at 35) ; Note Verbale to the UN Registry submitted by the United States of America on 7 December 2009 (UN Doc. ST/SG/SER.E/587, at 3); Jan Helge Mey, *Space Debris Remediation*, 61 ZLW, 252 (2012).

[23]Art.VIII CoCoSL, *supra* fn.3, 164 (eds, 2009).

[24]Francis Lyall& Paul B. Larsen, *supra* fn. 7, at 54.

[25]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, *entered into force* Oct. 10, 1967, 18 U.S.T. 2410, 610 U.N.T.S. 205, (hereinafter OST), art.VIII.

[26] *Infra* fn. 12 & 13.

[27]VCLT, *supra* fn. 16,, art.31.

landing sites (1.2.2) Lydios additionally submits that Endymion's protest against the MPA is contrary to the objective of the OST and therefore non-effective (1.2.3)

1.2.1. The conditions of applicability of Article IX of the OST are met, mainly a situation of necessity

It is widely accepted in doctrine[28] and state practice[29] that OST Article IX creates an obligation to avoid the harmful contamination of Outer Space, particularly on the Moon due to the fragile nature of its environment.[30]

Bearing in mind this purpose, Applicant submits that the threat of harmful contamination associated to Endymions' lunar touristic program created a situation of necessity justifying the promulgation of the MPA. As already experienced in Antarctica,[31] touristic activities in sensitive eco-systems impacts the environment severely, including the Moon's environment.[32] Accordingly, Lydios passed the MPA 6 months before the departure of the first space tourist to the Moon.[33]

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[28]Sergio Marchisio, *Article IX, in* CoCoSL, *supra* fn.3, 76-77 (eds 2009); Lotta Viikari, ENVIRONMENTAL ELEMENT IN SPACE LAW 51 (2008); Ram Jakhu, Legal Issues relating to the Global Public Interest in Outer Space, 32 JOURNAL OF SPACE LAW 39 (2006)

[29]UK Outer Space Act (Section 5, para. 2, lit e); European Space Agency Planetary Protection Policy [ESA/C(2007)14],UNGA Resolution 62/217 of 21 December 2007 on Space Debris Mitigation Guidelines; US National Space Policy (June 28, 2010) at 7-8;

[30]Lotta Viikari, supra fn 28, at 173-176; Viorel Badescu, Moon: PROSPECTIVE ENERGY AND MATERIAL RESOURCES; 512 (2012); Paul B. Larsen, *Application of The Precautionary Principle to the Moon*, 71 J. AIR L. & COM. 295 (2006); Sergio Marchisio, *Article IX, in CoCoSL*, *supra* fn.3, 77 (2009).

[31]Antarctic Treaty Secretariat, Committee of Environmental Protection Tourism Study - Draft Report (May 2012), at 36-40.

[32]Ivan Almar, *Protection of the lifeless environment in the solar system*, Proceedings of the 45th Colloquium on the Law of Outer Space 439 (2002).

[33] Compromis, §

1.2.2. Article IX allows Lydios to protect Apollo landing sites in a manner which is in line with state practice and opinio juris

OST must be understood as containing innovative legal principles rather than from the perspective of traditional legal rules adopted before the start of the space age. [34] Scholars have therefore considered that Article IX OST authorizes the creation of lunar "heritage parks" on to protect historical sites from harmful touristic activities,[35] as supported in State practice.[36]

Moreover, it is argued that when States take *appropriate measures* under Article IX OST, their "*manoeuver possibilities* […] *are extensive: they should adopt undefined appropriate measure and that only in case it is necessary* […]; *their discretion remain in their own hands*".[37] Applicant therefore submits that the "appropriate measures" referred to in OST Article IX can consist in domestic extra-territorial measures.

This reasoning is confirmed by the absence of vigorous objection from the international community against the MPA, particularly from the United States of America as the State of registry, which implicitly confirms the legitimacy of the MPA. State practice indeed shows that unjustified claim of jurisdiction in outer space[38] are rejected by the

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[34] Ram Jakhu, *supra* fn. 28, at 39.

[35] Francis Lyall, PLANETARY PROTECTION, 61 (2010).

[36] NASA's Recommendations to Space-Faring Entities: How to Protect and Preserve the Historic and Scientific Value of U.S. Government Lunar Artifacts (21 July, 2011); 113th Congress 1st Session, H.R. 2617, Proposed Bill To establish the Apollo Lunar Landing Sites National Historical Park on the Moon, and for other purposes (July 2013);

[37] Mahulena Hofmann, *Is there any Legal Regime for the Protection of the Moon's Environment?,* International Colloquium on the Law of Outer Space (IISL) , IAC-07-E6.3.12. (2007)

[38] See for example *Declaration of the First Meeting of Equatorial Countries*, December 3, 1976, ITU DOC. WARC_BS-81-E.

overwhelming majority of States,[39] which in present case did not happen. To the contrary, several space faring nations complied with the MPA[40], while the absence of protest against the MPA brings further acquiescence of the obligation to suspend commercial activities.[41]

Applicant alternatively submits that the MPA implements a norm possessing *erga omnes* character under international space law and therefore is binding upon all states. In particular, the global public interest in Outer Space, which includes the obligation to avoid its harmful contamination, imposes international obligation which is erga omnes applicable to and enforceable by all States;[42] and provides that the inclusive interests of the international community shall prevail over commercial interests.[43]

Accordingly, most space faring nations today require in their domestic space legislation that private commercial entities respect environmental norms as a prerequisite to obtain an operating license[44], or even to produce an impact assessment.[45] Applicant consequently submits that the MPA is binding upon all states as it suspends commercial

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[39]Fabio Tronchetti, *supra* fn. 19.

[40]Compromis, §X

[41] Fisheries Case (United Kingdom v. Norway), *supra* fn.9, at 138.

[42]Case concerning the Barcelona Traction, Light and Power Company, Ltd (Belg. V Spain)(Judgment), 1970 I.C.J. 32§33 (Feb. 5), Ram Jakhu, *supra* fn. 28.

[43] Laurence Ravillion, DROIT DES ACTIVITÉSSPATIALES – ADAPTATIONS AUX PHÉNOMÈNES DE COMMERCIALISATION ET DE PRIVATISATION, 158 (2004); H.A. Wassenberg, PRINCIPLES OF OUTER SPACE IN HINDSIGHT, 20 (1991) ; J. Monserrat Filho, *Why and how to define Global Public Interest*, IISL, 22-23; Francis Lyall, Expanding Global Communications Services, IISL Proceedings at UNISPACE III 65 (1999);.

[44]UK Outer Space Act (Section 5, para. 2, lit e), Loi française n° 2008-518 du 3 juin 2008 relative aux operations spatiales, art.4 ; UNCOPUOS Report of the Working Group on National Legislation Relevant to the Peaceful Exploration (A/AC.105/C.2/101) 7 (3 April 2012).

[45]Loi belge du 17 septembre 2005 relative aux activités de lancement, d'opération de vol, ou de guidage d'objets spatiaux, art8.

activities and regulates access to lunar historical sites in accordance with the global public interest in Outer Space as a norm *erga omnes*.

1.2.3. Endymion protests against the MPA are ineffective

A unilateral declaration from a State that contradicts general international law is not valid,[46] especially when it violates a norm possessing *erga omnes* character. By protesting against the MPA to protect its own commercial interests, Respondent acted in contrariety to the global public interest in outer space as a norm *erga omnes*. Lydios consequently submits that Endymion protests are ineffective.

1.2.4. Alternatively, Lydios is allowed to exercise extra-jurisdiction over Apollo landing sites in accordance with general international law

Relevant principles of international environmental law[47] apply to activities in outer space by virtue of OST III[48], including the obligation not to cause damage to environment of common space,[49] the precautionary principle[50] and the principle of sustainable environment. [51]

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[46] Fisheries Case *(United Kingdom v. Norway)*, *supra* fn.9, at 20.

[47] *Infra* fn. 49.

[48] LOTTA VIIKARI, *supra* fn. 28, at. 51.

[49] Principle 21 of the Rio Declaration on Environment and Development, Rio de Janeiro, 3-14 June 1992, UN Doc. A/CONF.151/26 (Vol.I) ; 1996 Advisory Opinion on *The Legality of the Threat or Use by a State of nuclear Weapons in Armed Conflict, 8 July 1996 (1996)* ICJ Rep. 226, para.29 (240). supra fn. 28,

[50] Principle 15 of the Rio declaration, *ibid*.

[51] Principle 27 of the Rio declaration, *supra* fn. 49 ; Case Concerning the *Gabcikovo-Nagymaros Project between Hungary and Slovakia,* (1997)

Applicant submits that extra-territorial measures are allowed under international law,[52] particularly in the field of environmental law and protection of human rights[53] as they protect *erga omnes* obligation. Moreover, unilateral action for the benefit of international environmental protection of common area can prove necessary where effective multilateral action does not take place.[54]

In the Fisheries Jurisdiction (UK *v*. Iceland), this honourable Court accepted the unilateral extension of Iceland's jurisdiction over the high seas.[55] Moreover, Canada implemented domestic legislation to prevent damages to Arctic waters[56] since Canada was not prepared to wait the development of international rules as the solution.[57]

1.3. The provisions of the MPA are consistent with relevant principles of international space law as the *lex specialis* applicable to the given facts

Applicant submits that the obligation to vacate Luna-1 (1.2.1.) and the MPA are in accordance with the principle of freedom of exploration and use (1.2.2.), the principle of non-appropriation (1.2.3), the principle of international cooperation (1.2.4.), and the principle of due-regard (1.2.5.) Applicant additionally submits that the MPA is in accordance with general international law (1.2.6.)

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[52]*SS Lotus* (France v Turkey) (Merits) 1927 P.C.I.J. (ser. A/B), N° 10 (Sept. 7) at 19.

[53]Malcom Shaw, INTERNATIONAL LAW, 668 (2009); R. Bernhardt, *Encyclopedia of Public International Law*512 (2003); Cedric Ryngaert, JURISDICTION IN INTERNATIONAL LAW 42 (2008)

[54]Richard B. Bilder, *The Anglo-Icelandic Fisheries Dispute*, Wis. L. Rev. 37, (1937).

[55]Fisheries Jurisdiction Case (UK *v*. Iceland) 1973 I.C.J. 3 (Feb. 2), (Declaration by Judge Ignacio-Pinto) 1974 I.C.J. 35 (July 25).

[56]Arctic Waters Pollution Prevention Act (1970).

[57]Richard B. Bilder, *The Canadian Arctic Waters Pollution Prevention Act: New Stresses on the Law of the Sea*, 69 Mich. L. Rev. 1, 12 (1970).

1.3.1. International space law does not provide for a right of permanent occupation but only for a temporary right to visitation

No provision of the international space law regime provides for a right to occupy the installations of another State on a permanent basis. OST Article XII only creates a temporary right to diplomatic visitations subject to reciprocity and prior notification.[58] Applicant as the State of Registry of Luna-1 is consequently allowed to request Respondent to vacate the facilities.

1.3.2. The buffer zones are consistent with the principle of freedom of exploration and use

The principle of freedom of exploration and use, of which the principle of freedom of access is part,[59] is neither absolute[60] nor unlimited.[61] To the contrary, as noted by the honourable Judge Lachs, States in becoming parties to OST accept a responsibility with respect to the preservation of Outer Space for the benefit of all mankind.[62] Lydios therefore promulgated the MPA, which only apply to less than 0.2% of the lunar surface,[63] to preserve the Moon form harmful touristic activities until an international agreement to regulate them is reached.

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[58] OST, *supra* fn. 5, Art.XII.

[59]OST, *supra* fn. 5, Art.I(2).

[60]Ram Jakhu, *supra* fn. 28, at 39; Ogunsola Ogunbanwo, *supra* fn. 20, at 65.

[61]Manfred Lachs, THE LAW OF OUTER SPACE: AN EXPERIENCE IN CONTEMPORARY LAW-MAKING 117 (1972)

[62]Manfred Lachs, *The International Law of Outer Space, in* III RECUEIL DES COURS 45-46, 105 (1964); Francis Lyall & Paul B. Larsen, *supra* fn. 7, at 320.

[63]The MPA creates 22 individual buffer zones of maximum 25 km^2 each (compromis, §20) and one consolidated buffer zone of maximum 40.000 km^2 (compromis, §16), which all together represent 0.107% of the lunar surface (37.930.000 km^2).

Lydios additionally submits that the establishment 3D delimitation zone is a common practice in international space law, explicitly recognized on the Moon Agreement.[64] In this respect, the United Nation Committee on the Peaceful Uses of Outer Space recently expressed the urgent need to establish designated protective zones on the Moon.[65] Moreover, with regard to access to Geostationary Orbit, States are only authorized to use their satellite on very limited portion of the orbit, the so-called "ITU box".[66]

Finally, the United-States, France, Canada and the Philippines unilaterally created ''air defence identification zone'' outside their territory and above the airspace over the high-seas.[67] On the basis of this analogy, it is argued that OST does not exclude similar control area on the Moon.[68]

1.3.3. The MPA does not violate the principle of non-appropriation

Two elements must be examined so as to conclude a violation of the principle of non-appropriation. First, the concept of appropriation under space law implies a sense of permanence[69] which is absent in present case. The MPA is only a temporary measure that suspends commercial activities until a specific international agreement is adopted.[70] Second, a

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[64]Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, *entered into force* July 11, 1984, 1363 UNTS 3, art.7, (hereinafter Moon Agreement).

[65]Future Role and Activities of the Committee on the Peaceful Uses of Outer Space, Working Paper, Protection/Conservation of Designated areas of the Moon and other bodies of the solar System, A/AC.105/L268 (2007), at 7.

[66]Convention of the International Telecommunication Union (Geneva 1992), as amended by subsequent plenipotentiary conferences, art.44.

[67]Imre Anthony Csabafi, supra fn.5, at 62

[68] Ibid, at 38

[69]Stephen Gorove, *Interpreting Article II of the OST*, 37 FORDHAM LAW REVIEW3, 349-353 (1969)

[70]Compromis, §20.

claim of sovereignty requires the intention to act as a sovereign state[71] which again does not apply Applicant.

1.3.4. The principle of international cooperation only implies a non-compulsory duty to consult the other states

The notion of cooperation is subject to a variety of interpretations in ordinary usage and in international practice, as there is no consensus on a legal definition.[72] Article IX OST concerning international cooperation in the protection of Outer Space environment uses vague terms and lacks of procedural rules further detailing the obligation to consult other states, and therefore imposes an extremely weak obligation.[73] Thus, the obligation to consult is limited by its non-compulsory character.[74]

Moreover, Article IX OST only refers to consultation when a State has "*reason to believe that an activity or experiment […] would cause potentially harmful interference with activities of other Sates."* Applicant submits that there is no reason to believe that the MPA would interfere with Endymion legitimate interests since the MPA protects the global interest of the international community as already elaborated.

1.3.5. The MPA respects the corresponding interests of all States in accordance with the " due regard" principle

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[71]Cestmir Cepelka, J. Gilmour, *The Application of General International Law in Outer Space*, 36 J. AIR L. & COM. 32 (1970) ;

[72]Isabelle H. Ph. Diederiks-Verschoor, AN INTRODUCTION TO SPACE LAW 30 (2006)

[73] J. Rzymanek, *Protection of outer space environment: urgent necessity and challenge for international law*, INTERNATIONAL SPACE LAW MISCELLANEA, Liber Amicorum Honouring Prof. dr. Andrzej Gorbielm, edited by E. J. Palyga, Warsaw, 154 (1995)

[74]Ibid.

The "due regard" principle stated in Article IX OST expresses a standard of care. It establishes that a State, when conducting activities in Outer Space, must have due regard to the corresponding interests and rights of other States.[75] It is rather an obligation of conduct than result.[76]

This honourable Court held in the 1997 Gabčikovo-Nagymaros case that "*safeguarding the ecological balance has come to be considered an 'essential interest' of all States*".[77] Lydios therefore submits that the MPA is in accordance with the due regard principle since it protects the global public interest of in Outer Space and more particularly the lunar environment. Moreover, Lydios paid particular attention to the corresponding interests of Respondent by allowing the crew to stay another 6 months at Luna-1[78] to organize repatriation of the crew in the best safety conditions.

To the contrary, Endymion's touristic lunar program, materialized by the unlawful presence of Endymion's officials at Luna-1 in violation of the *lex specialis*,[79] does not constitute a legitimate interest and therefore is not protected by the due regard principle.

1.3.6. In addition, the MPA is in accordance with general international law

As already elaborated above, the MPA is consistent with relevant provisions and principles of international environmental law.

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[75]Michael Miniero, ARTICLE IX'S PRINCIPLE OF DUE REGARD AND INTERNATIONAL CONSULTATION 3 (2010)

[76]Ulrike Bohlmann, Informal Connecting the Principles of International Environment Law to Space Activities, 6.

[77]Gabčikovo-Nagymaros Project (Hungary *v*. Slovakia) 1997 I.C.J. 7 (Sep. 25).

[78] Compromis, §X.

[79] OST, *supra* fn. 5,, Art.VIII

Moreover, Applicant submits that the MPA is in accordance with the customary principle of State sovereignty and the principle of non-intervention. Firstly, since the Moon is a sovereignty-free area,[80] Lydios cannot violate the sovereignty of Endymion. In addition, this Court considered in two decisions that violation of the principle of sovereignty *a fortiori* also violates the principle of non-intervention.[81] Thus, since Lydios did not violate the sovereignty of Endymion, Lydios did not intervene in the domestic affairs of Endymion.

2. RESPONDENT'S DECISION NOT TO VACATE LUNA-1 VIOLATES INTERNATIONAL SPACE LAW AND GENERAL PRINCIPLES OF INTERNATIONAL LAW

2.1. Endymion as a State party to the OST is obliged to act in good faith and to recognize Lydios' jurisdiction over Luna-1

Applicant as a State of Registry enjoys full and exclusive jurisdiction over Luna-1 and therefore is entitled under *lex specialis*[82] to promulgate domestic legislation regulating the activities in the installations and applying to the personnel therein. Moreover, since international space law does not provide for any right to occupy Luna-1 on a permanent basis, Applicant is allowed to request Respondent to vacate the facilities. By failing to vacate Luna-1 within 6 months as demanded by Applicant, Respondent consequently failed to perform its obligation under *lex specialis.*[83]

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[80] OST, *supra* fn. 5,, art.II.

[81] Border and Transborder Armed Actions (Nicaragua v. Honduras), (1988), I.C.J.Rep.69, §205, I.C.J. *Military and Paramilitary Activities in and against Nicaragua*, (*Nicaragua v. United States*), Merits, (1986), I.C.J.Rep.14, §205.

[82] OST, *supra* fn. 5,, art.VIII and RC, *infra* fn.. 17, art.II

[83] RC, *infra* fn. 17, art.VIII; VCLT, *supra* ftn. 16, art.26.

2.2. Endymion as a State party to the Moon Agreement must take measure to prevent the disruption of the Lunar environment

Pursuant to Article 7(1) of the Moon Agreement, "*States Parties shall take measures to prevent the disruption of the existing balance of its environmen*t". By refusing to vacate Luna-1 in order to conduct the first mission of if lunar tourist program, Applicant submits that Respondent failed to perform its obligation under Article 7(1) of the Moon Agreement and in accordance with the precautionary principle which also applies to the Moon.[84]

II. LYDIOS ACTED IN CONFORMITY WITH INTERNATIONAL LAW BY DECLINING TO GRANT PERMISSION FOR THE BENNU TO DOCK AT DIANA

Applicant submits that its decision declining to grant permission for Bennu to dock is consistent with the Rescue and Return Agreement[85] (1.) and the OST (2.).

1. RRA DOES NOT OBLIGE APPLICANT TO GRANT BENNU ACCESS TO DOCK

Respondent may rely on several provisions to request assistance from Applicant under the RRA. However, as further elaborated below, the RRA does not provide for an unconditional right to assistance, especially in situations falling outside the scope and the purpose of the Treaty. Accordingly, Applicant submits that the conditions of applicability of RRA Article 3 (1.1) and RRA Article 2 and 4 (1.2) does not apply to the factual circumstance of the given facts.

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[84] *Supra*, fn. 30.

[85] Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space,*entered into force* Dec.3,1968,19U.S.T.7570, 672U.N.T.S.119(Hereinafter RRA).

1.1. RRA Article 3 is inapplicable to present circumstances

The duty to rescue under RRA Article 3 requires three elements: rescue is necessary, the State Party is in a position to assist, and the spacecraft must first alight.[86] Applicant submits that none of these requirements are met in this case: no rescue was "necessary" (1.1.1.); Lydios was not "in a position" to assist (1.1.2.); and Bennu did not "alight" (1.1.3.)

1.1.1. Rescue was not necessary

The facts clearly indicate that there was no tangible danger to the life of the crew and therefore rescue of the Bennu was not "necessary." The only objective of the Bennu was to obtain propellant in order to deploy the two probes, in disregard for the lives of the personnel on board.[87] Moreover, the Bennu crew could have launched one probe and gone home safely or just returned to Earth once they discovered the probe's fuel leak, rather than compromise their own safety in an uncertain attempt to refuel.

To the contrary, by first asking to dock to obtain fuel, and after being denied docking, embellishing the request,[88]Kandetta violated its obligation to act in good faith as a State party to the RRA.[89]

1.1.2. Lydios was not in a position to rescue

The RRA and the OST permit "a wide latitude for action reserved to each nation in interpreting 'all possible assistance' and 'in a position to do so' upon receipt of a request for

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[86]Cargill Hall, *Rescue and Return of Astronauts on Earth and in Outer Space* 63,AM. J. INT'L L. 197 (1969); Frons G. von der Dunk, *A Sleeping Beauty Awakens: The 1969 Rescue Agreement after Forty Years, Journal of Space Law* 411, 423 (2008).

[87] Compromis§22-24

[88] Compromis§22-23.

[89] VCLT, *supra* ftn. 16, Art.28.

assistance."[90]Accordingly, the analysis of whether a state is in a position to assist can be based on a State's financial capability, particularly regarding rescue in space.[91] Lydios has a history of financial struggles which have threatened its space program,[92] thus financially it was in no position to assist.

Moreover, the Lydios Commander was free to assess her 'position' to assist in light of the safety risk posed to Diana. In particular here, refusal to assist was justified in part by Kandetta's poor safety record, with failures outnumbering successes 2 to 1. .[93] The base commander has broad discretion to decide whether it is possible to perform the duty to rescue without endangering her base, crew or passengers.[94]

Lydios consequently submits that the commander of Luna-1 acted in conformity with Article 3 when using its discretional power to refuse Bennu access.

With the risk of unplanned space activities, financial difficulties and national law forbidding traffic to protect the lunar environment, the commander had broad discretion to decide that Diana was not in a position to assist with a rescue operation.

1.1.3. Bennu had not alighted

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[90]Cargill Hall, supra fn. 86, at 207; Fr. Von der Dunk & Goh, *Article V*, CoCoSL, *supra* fn.3, 98-99,(2009); Ogunzola Ogunbanwo, *supra* fn. 20, 133-4; Jasentuliyana, OUTER SPACE FOR PEACEFUL USES, 95-97 (1984);

[91]Mark J. Sundahl, *The Duty to Rescue Space Tourists and Return Private Spacecraft*, 35 J. SPACE L. 169 (2009).

[92] Compromis§5,13.

[93] Compromis§7,22; E. Loquin , *La gestioncontractuelle des risquesdansl'exploitation commercial de l'espace*, in *L'exploitationcommerciale de l'espace*, 166 (1992)*;* V. Kayser, *Launching Objects: issues of liability and future prospects* 6 (2001); H. Yoshida, Accidents of Space Activities and Insurance 36 Colloquim on the Law of Outer Space, 221(1993)

[94]See Note 7 *supra;* by analogy see UN Convention on the Law of the Sea, Art.98.

Doctrine generally interprets the duty to rescue as contingent on the landing of a spacecraft,[95] as the duty is triggered when the personnel have "alighted." This provision therefore excludes distress situations in orbit[96]or when travelling in outer space[97], while some authors claim that RRA Articles 1 through 4 exclusively concern terrestrial events.[98]

Further, interpretation of "alight" as requiring a landing is consistent across all 5 official languages of the treaty; Chinese, English, French, Russian and Spanish which are all equally authentic.[99]

Lydios therefore submits that, in the absence of a landing, RRA Article does not apply to the given facts.

1.2 RRA Articles 2 and 4 are inapplicable to the present circumstances

1.2.1 None of the events occurred in the territory of Lydios

Article 2 of the RRA only relates to rescue efforts following "unintended landings" in "the territory under the jurisdiction of a Contracting Party,"[100] thus clearly irrelevant here because Bennu did not land on the territory of Applicant.

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[95] Paul G. Dembling and Daniel M. Arons, *The Treaty on Rescue and Return of Astronauts and Space Objects,* 9 WILLIAN AND MARY LAW REVIEW, at 644, 649 (1968); Mark J. Sundahl, *supra* fn. *92.*

[96]Van Bogart, ASPECTS OF SPACE LAW, 109 (1986).

[97]UN General Assembly - Twenty-second Session - Plenary Meetings, 1640th meeting - 19 December 1967, A.P/V.1640; Paul G. Dembling& Daniel M. *supra* fn. 96, 649.

[98]Frons G. von der Dunk, *supra* fn. 85, at 423.

[99] RRA, supra fn. 85, Art.10; *see also* VCLT, *supra* fn. 16, arts.31-33; *Polish Postal Services in Danzig, Advisory Opinion,* 1925 P.C.I.J. (ser.B) N 11 at 39 ; *South West Africa Case* (*Eth. v S. Afr. ; Liber. v S. Afr.*), 1962 ICJ, 319, 336.

[100] *RRA, supra fn. 85, Art.2; Sundahl, supra fn. 92.*

1.2.2 The Bennu was not in a situation of accident, distress, emergency or unintended landing

Article 4 of the RRA only applies in the event of "*accident, distress, emergency or unintended landing*," none of which were present here. Moreover, 'distress' does not include situations under a craft's own control, as it was here, and requires imminent danger of losing ship or lives.[101]

The Bennu crew were in space intentionally, with control over their location.[102]Even if they were found in space as a result of the probe "accident", Article 4 of the RRA does not apply to the request to dock and refuel, because it only requires safe and prompt return of personnel. There was no need or request for personnel to be returned in this case, since they could and did return under their own power.[103]

2. OST DOES NOT OBLIGE APPLICANT TO GRANT BENNU ACCESS TO DOCK

Applicant submits that the duty to render all possible assistance to astronauts under Article V OST (2.1) and the right to diplomatic visitations under Article XII OST (2.2.) do not apply to the given facts, and therefore Applicant is not obliged to grant access to Bennu.

2.1. Lydios was not obliged to render assistance to the Bennu under Article V of the OST

2.1.1. Article V paragraph 1 only applies to terrestrial situation

[101] ARSIWA Art.24; SeeR.Churchill, A.V.Lowe, The law of the sea 200-220(1999); The Ship May v. His Majesty the King, 3 DLR 15 (1931). Tanaka, Law Of The Sea, 80f (2012); Noyes, Ships in Distress, 173-178, paras 1-5, 13-14, EPIL; The Eleanor Case, 135, 161 (1809); The New York, 59, 68 (1818); Milde, Intl. Air Law and ICAO, 95 (2008).

[102] Compromis,§21.

[103] Compromis,§22.

OST Article V(1) creates a duty to render "all possible assistance" to astronauts “in the event of accident, distress or emergency landing on the territory of another party or on the high seas,"[104] and is thus inapplicable here.

2.1.2. Wide discretion of the Base Commander to determine whether assistance is possible

The notion of all possible assistance is left at the discretion of each Contracting State, which may determine whether it is possible to furnish assistance in space.[105] As elaborated above, Lydios submits that the commander appropriately exercised her right of discretion when concluding that the request of Bennu to dock and refuel for its probe mission was not possible under the circumstances.

2.1.3. Kandetta is not a State Party to the OST

Kandetta is not a State Party to the OST, thus Lydios had no *prima facie* duty toward the Kandetta’s astronauts. Mr. Billippo’s presence as an Endymion national did not create a duty to assist the Bennu crew because Mr. Billippo was not an astronaut, but a paying tourist.[106] Furthermore, he was not connected to the probe mission for which assistance was requested.[107]

Respondent might argue that OST still applies as customary law. However, the OST duty to assist in space has not ascended to customary law.[108] The establishment of customary

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[104]OST, *supra* fn. 5,,Art.V(1.)

[105]OST, *supra* fn. 5, Art.V(1),(2); Cargill Hall, *supra* fn. 86, at 207

[106]Francis Lyall & Paul B. Larsen, *supra* fn. 7, at 129-132; Cloppenburg, LEGAL ASPECTS OF SPACE TOURISM, 201 (2005).

[107] Compromis,§22.

[108]Francis Lyall & Paul B. Larsen, *supra* fn. 7,at 70-80.

law requires two elements, namely State practice and *opinio juris*.[109] There has never been a practice of rescue in space, and neither the OST nor the RRA creates a clear duty for a rescue in space.[110]

Finally, as a result of the *lex posteriori* rule,[111] the duties created by the OST regarding astronaut assistance have been superseded by the RRA, as discussed in the previous section, and have been deprived of operative force. As stated by one author "That the Rescue Agreement was intended to supersede the Outer Space Agreement with respect to the duty to rescue and return is clear."[112]Thus, OST is not applicable to create a duty in favor of Kandetta in this case.

2.2. Lydios was not obliged to accept Kandetta's request to visit Diana under article XII of the OST

Article XII provides for diplomatic visits of State Parties to facilities on the basis of reciprocity, with reasonable notice, and maximum precautions to assure safety and avoid interference with normal operations. However, Applicant submits that it does not apply to the present circumstances for the following reasons.

2.2.1 The right of visitation is only recognized to States Parties to the OST, not tourists, and is not absolute

Article XII of the OST applies to "representatives of other States Parties to the Treaty on a basis of reciprocity". Thus, the right of visitation only applies between States Parties to

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[109] North Sea Continental Shelf (Germany v. Denmark and the Netherlands) 1969 I.C.J. 3 (Feb.20), §27.

[110]Cargill Hall, *supra* fn 86, at 201 and 205.

[111]VCLT, *supra* fn. 16, art.30.

[112]Mark J. Sundahl, *supra* fn. 92, at 177 *and* 185.

the treaty *inter se*[113] which Kandetta is not. Similarly, Mr. Bilippo is not a state representative of Endymion.

Interpreting the expression "representatives of other States" so as to include tourists would inevitably lead to a manifestly absurd and unreasonable situation.[114] In particular, it would contradict the main objective of OST Article XII of the OST, being to "to assure safety and to avoid interference with normal operations in the facility to be visited." Furthermore, States have the right to refuse access if the visit is untimely or will interfere with normal operations or safety.[115]

2.2.2 Kandetta did not give reasonable advance notice or satisfy the principle of reciprocity

Kandetta did not give reasonable advance notice to Lydios as required by Article XII of the OST.[116] In addition, Article XII is subject toreciprocity, whereby free access to installations depends on the relations between the two states.[117] In this case, Kandetta is a politically isolated nation[118] without diplomatic relationship with the Applicant, thus their request to visit contradicts the principle of reciprocity.

III. LYDIOS IS NOT LIABLE FOR DAMAGES FOR THE FAILED DEPLOYMENT OF KANDETTA'S PROBES

[113]I. A. Csabafi, *supra* fn. 5, at 104.

[114]Id.

[115] Paul G. Dembling *supra* fn. 96, at. 447-451; Ogunzola Ogunbanwo, *supra* fn. 20, 104; Smith, Article XII, CoCoSL, supra fn.3, 207, 211 (2009).

[116]Compromis,§23.

[117]C. Cepelka, *supra* fn. 71, at 36.

[118]Compromis,§7.

The Liability Convention (hereinafter LC)[119] preempts both the OST and general international law, according to the *lex specialis* rule.[120] To receive compensation under the LC, Endymion must prove it suffered damages (1.), due to the fault[121] of Lydios(2.), and a causal link[122] between the fault and the damages (3.).

In this case, none of these requirements are met. To the contrary, Kandetta and Endymion caused the failed deployment of the probes. Thus, in the absence of fault, damage, and causation, Lydios cannot be held liable for the failed deployment of the probes.

1. ENDYMION HAS NO LEGITIMATE DAMAGES CLAIM AGAINST LYDIOS

LC requires that claimant prove damages.[123] However, Endymion has no standing to claim damages on behalf of Kandetta (1.1), and the alleged damages caused by Lydios are neither personal to Endymion (1.2) nor fall under the definition in the LC (1.3).

1.1. Endymion has no standing to bring a claim on behalf of Kandetta

Liability of one State may be invoked by another State if the obligation breached is owed directly to that second State.[124] As held by this Court, "[o]nly the party to whom an

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[119] Convention on International Liability for Damage Caused by Space Objects, *entered into force* Oct. 9, 1973, 24 U.S.T. 2389, 961 U.N.T.S. 187 (hereinafter LC).

[120] Manfred Lachs, *supra* fn. 61, at 105.

[121] B.A. Hurwitz, *State Liability for Outer Space Activitiesin Accordance with the 1972 Convention on International Liability for Damage Caused by Space Objects*, *at 34*(1992).

[122]P. Dembling, *A Liability Treaty for Outer Space Activities*, AMERICAN UNIVERSITY LAW REVIEW 33 (1970).

[123]B.A.Hurwitz, *supra* fn. 122, at 12.

[124] Case concerning South West Africa (Ethiopia v. South Africa; Liberia v. South Africa) (Judgment) para. 54.

international obligation is due can bring a claim in respect of its breach"[125] and to invoke State liability, the rights claimed "must be clearly vested in those who claim them."[126]

1.2 The alleged damages were not caused to Endymion but to Kandetta

The LC, defines "damage" as loss of life, personal injury or other impairment of health; or loss of or damage to property of Sates or of persons.[127] Only "the State which suffers damage, or whose natural or juridical persons suffer damage"[128] may present a claim. Since the probes belong to Kandetta,[129] Endymion did not suffer any damage to its property and thus is not entitled to bring a claim.

In addition, because Mr. Billippo did not suffer personal injury, Endymion is not entitled to claim compensation for "damages sustained by its permanent residents" under LC Art.VIII(3). Therefore, Endymion has no basis to bring a claim for damages under the LC.

1.3 Endymion cannot prove the existence of its own damage

The LC's purpose is to elaborate rules to ensure prompt payment to victims of damage from space objects,[130] to restore the condition which would have existed if the damage had

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[125] Case concerning Reparation for Injuries Suffered in the Service of the United Nations (Advisory Opinion) at 181 (1949) ICJ 174 (Apr 11).

[126]South West Africa, *supra* fn. 125, para. 44 (1966).

[127]LC, *supra* fn. 120, Art.1(a).

[128]LC, *supra* fn. 120, Art.8.

[129] Compromis,§17.

[130]LC, *supra* fn. 120, preamble.

not occurred.[131] Thus, without actual damage, the LC shall not apply and there can be no liability.[132]

In this case, Endymion suffered no materialized or actual damage. First, the claim brought by Kandetta against Endymion is speculative (1.3.1). Second, Endymion has reasonable defenses to avoid its liability vis-à-vis of Kandetta (1.3.2).1.3.1. The claim initiated by Kandetta against Endymion is speculative

Kandetta's claim against Endymion is unresolved at this point and subject legitimate defenses. Such premature claims by a third party are not certain enough to support recoverable damages. In international law, damages must be certain and non-speculative.[133]

1.4. Endymion is not liable for damages to Kandetta

There is no conclusive liability supporting Endymion's claim of indemnity against Lydios, as Endymion has strong defenses to Kandetta's underlying claim. Even if Bennu successfully refueled, successful completion of the mission was not guaranteed, given Kandetta's history of failed missions (66%)[134] and probe fuel leak here. Therefore, the high likelihood that one or both probes would ultimately fail makes compensation for them inappropriate.

In addition, the LC does not provide for compensation for non-material damages such as indirect economic damages, loss of profit, consequential or other indirect damages.[135] In

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[131]LC, *supra* fn. 120, Art.12.

[132]C. Christol, *International Liability for the Damage Caused by Space Objects*, AM .J. INT'L LAW 71 (1980); B. A. Hurwitz, *supra* fn. 122, at 12.

[133] ICJ Statute, *supra* fn. 1, Art.59; Monetary Gold Removed from Rome in 1943 (Italy v. France, UK and United States of America) (Judgment) 19, 32 (1954), ICJ Reports

[134] Compromis, §7

[135] Valerie Kayser, *supra* fn. 94, at 44; Christol, *supra* fn. 133, at 368.

space, damages must be caused by "only a direct hit" with the space object which destroys or makes it dysfunctional.[136] Accordingly Lydios submits that the fail deployment of the two probes constitutes an indirect damage since no contact occurred between the docking and the probes.

Moreover, Kandetta did not suffer any loss to its probes, which were returned to Earth safely and can be redeployed for future purpose, resold or even reused in twenty years when the Comet Donkelson returns to earth proximity.[137]

2. ENDYMION FAILED TO PROVE THAT LYDIOS COMMITTED FAULT

The element of fault must be proven by claimant.[138] However, the LC does not define "fault." Two different approaches exist in international law in order to assess a fault.[139] First, under the objective approach, a fault consists in the violation of a legal obligation or in a breach of a legal duty.[140] Second, following the subjective approach, fault requires failure "to exercise a degree of prudence considered reasonable under the circumstances". [141]

Applicant submits that, under both standards, the denial to grant access to Bennu (2.1) and the construction of the docking port (2.2) do not constitute a fault.

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[136]Valerie Kayser, *supra* fn. 94, at. 47; F. Lyall & P. Larsen, *supra* fn. 7, 86, 107 (2009)

[137]Conpromis,§17.

[138]B. A. Hurwitz, *supra* fn. 122, at 34.

[139]Sompong Sucharitkul, *State Responsibility and International Liability under International Law*, 18 LOY.L.A.INT'L&COMP.L.Rev. 834, 835 (1996).

[140] J. Pfeifer, *International Liability for Damage Caused by Space Objects*, Z.L.W 225 (1981)

[141]VCLT, *supra* fn. 16, Art.31; Irmgard Marboe, SOFT LAW IN OUTER SPACE, 125-135 (2012);V .Kayser, supra fn. 94, at 51.

2.1. The decision of Lydios to refuse the access of Bennu at Diana do not constitute a fault under *lex specialis*

As already elaborated, Lydios was allowed under international space law to refuse Bennu to dock at Diana.[142] Similarly, under the subjective approach, by following its reasonable decision to deny docking based on safety and protection of the lunar environment, Lydios did not act negligently.

Alternatively, if this honorable Court considers that Applicant committed a fault, it would still not amount to a breach of the LC for the probes, because liability does not automatically flow from responsibility.[143]

2.2 The malfunction of the Fortuna docking port does not establish fault

Although Applicant designed the docking-mechanism with the highest level of care, technical failures are unfortunately inevitable in space activities.[144] As supported in doctrine,[145] the ultra-hazardous risk attached to space activities was implicitly recognized by the drafters of the LC.[146] The LC indeed follows a victim-favored approach because technical failures involving third parties damage would inevitably occur. However, this approach only applies to victims on earth who can rely on an absolute liability regime established under Article II LC, as opposed to victims involved in an accident in Outer Space since they are

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[142] *Infra*, p.17.

[143] Bin Cheng, *International Responsibility and Liability for Launch Activities*, 20 AIR AND SPACE LAW 304 (1995); Frans von der Dunk, *Liability Versus Responsibility in Space Law: Misconception or Misconstruction?,* 34 Proc.Collo.L.OuterSp.363, 363-4 (1992).

[144] Emilie Loquin , *supra* fn. 94, at 166.

[145] Valerie Kayser, *supra* fn. 94, at 6.

[146] UN Documents. A/AC.105/850; A/AC.105/C.2/SR.03.

aware about the ultra-hazardous risks attached to space activities.[147] In the second scenario the LC establishes a fault based liability.[148] Consequently, each space-faring State "…*must take reasonable care to avoid acts or omission which [they] can reasonably foresee would likely injure..."* other States.[149]

Applicant submits that it took reasonable care in present case and therefore did not commit a fault. Firstly, the malfunctioning docking port mechanism was initially designed for its own purpose and therefore was build with the highest level of duty of care. Moreover, this level of care was confirmed by the fact that the docking-mechanism worked properly during more than 20 years, as compared to satellites that are only operational 15 year's in orbit.

3. ENDYMION FAILED TO PROVE A CAUSAL LINK BETWEEN ITS SUPPOSED DAMAGES AND THE ALLEGED FAULT OF LYDIOS

LC requires a causal link between damage and fault.[150] The drafters of the LC interpreted this notion narrowly, only requiring proving a proximate causation between the damage and the alleged fault.[151] According to State Practice[152], a proximate cause is a fault that normally, naturally, and foreseeably lead to damages.[153]

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[147] Pfeifer, supra fn. 141, at 228.

[148] LC, *supra* fn. 120, Art.3

[149]*Donoghue v. Stevenson* UKHL 100 (1932), *in* Y.B.I.L.C., 1986, Vol.I, p.208,§1

[150] LC, *supra* fn. 120, Art.3"damage caused [...] by a space object"; Dembling, *supra* fn. 123, at 43; Kerrest, *supra* fn. 12, Article VII, CoCoSL, supra fn.3, 140-141(2009).

[151]B. Cheng, GENERAL PRINCIPLES OF LAW, 242 (2006); Christol, supra fn. 133, at 346-359, 362; V. Kayser, *supra* fn. 94, at 23; H.L.A.Hart, A.M.Honoré, CAUSATION IN THE LAW 104-08,116-19, 216-29 (1985).

[152] Dix Case (Venezuela v. United States of America) 1903-1905, 9RIAA119; Angola Cases (Portugal v. Germany) 1928/1930, 2RIAA1011.

[153] Life Insurance Claims, (Germany v. United States of America)1924,4 RIAA 121; Blyth v. The Company of Proprietors of the Birmingham Waterworks, EWHC Exch J65 (1856) 11;

Accordingly, Applicant submits that the failed deployment of the two probes is not a natural, normal or foreseeable consequence of either Lydios's refusal to dock and refuel Bennu or the use of inferior hydraulic fluid in manufacturing its docking port. Moreover, Applicant submits that the primary cause of the failed deployment of the probes was the initial probe fuel leak (3.1), Kandetta failed to mitigate its damages (3.2), and Endymion's illegal occupation of Fortuna was an intervening cause of the damage (3.3).

3.1. The initial leak of the probe caused the failure of the mission

Several theories exist in State practice to assess the causal link between the damage and a fault.[154] Following the equivalence theory, every condition *sine qua non* of the damage is a cause.[155] In present case, had Kandetta properly manufactured the probes, no leak would have occurred with all subsequent damages. Lydios therefore submits that the fault rely on Kandetta.

Respondent may argue that the malfunctioning docking port also comprises a cause of the failed deployment. However, with multiples causes, the most foreseeable and proximate cause should be held to establish liability.[156] No evidence exists that the docking port directly or indirectly caused damage to the probes. There was no physical contact between the port

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Vaughan v Menlove (1837) 132 ER 490 (CP); see Black's Law Dictionary, B.A.Garner ed., 721 (2009).

[154] P. LeTourneau, DROIT DE LA RESPONSABILITÉ DES CONTRATS, 565 (2010); Germany "Bedingungstheory" and Common Law "But for test" R. Buckley, THE LAW OF NEGLIGENCE, 61(2005).

[155] Ibid., P. Le Tourneau.

[156] R. Buckley, supra fn. 155, at 63.

and the probes, nor any physical damage to the probes themselves. Bennu itself was damaged "during" repeated docking attempts, but not *per se* as a result of the defective docking port.[157]

Thus, Applicant submits that this honorable Court should determine whether failed deployment of the probes was caused more proximately and foreseeably by the chain of events initiated by Kandetta's leaking probe, and that the initial leak of the probe is the most foreseeable and proximate cause of the failed mission.

3.2. Kandetta negligently or recklessly contributed to its own damage, violating its duty to mitigate damages

In apportioning Kandetta's relative contribution to its own damages under LC IV(2) or XII, the Court can equitably consider National laws regarding contributory negligence,[158] which generally limit liability to the extent the claimant acted negligently and contributed to the damages they suffered.

Kandetta built a leaking probe, then voluntary took unreasonable risks in an attempt to deploy both probes. Although Kandetta had the opportunity to launch one probe and perform 50% of the mission before returning safely to Earth, Commander Pekki chose a most dangerous option consisting of an improvised lunar refueling, unnecessarily risking the lives of Bennu passengers and Diana personnel.[159]

3.3. The illegal occupation of Luna-1 by Endymion is an intervening cause of the damage

Endymion's illegal occupation of Fortuna prevented Lydios from either maintaining its docking port or denying its use to Kandetta, establishing the basis of Endymion's fault.

[157] Compromis,§24

[158]Haanappel, P.P.C., *Product Liability in Space Law*, 2HOUS.J.INT'L L.55 (1979) 148; Salmond&Heuston, *Law of Torts*, 485 (1996)

[159] Compromis,§22-24

Permitting Bennu to dock at Fortuna is a condition *sine qua non,* by which Endymion caused the harm, while violating international law.

Had Endymion refused the docking, no damage would have occurred during the docking operations. In addition, had Endymion respected Lydios' jurisdiction over Diana and abandoned the station as legally demanded, Lydios could have fixed the port or denied docking to Kandetta, thereby avoiding any damage.

Even were Endymion unlawful exclusive possession of Fortuna, Endymion must supervise operations there in a responsible and continuous manner,[160] and be held responsible for proper functioning of its systems, components and mechanisms in accordance with the maxim *terra transit cum onere*.[161] As stated in the UNCOPUOS "the State which effectively controls the space object and causes harm would [otherwise) be free from liability." Thus, "international liability for damage caused by certain space activities should be borne by States who exercise effective control over them."[162]

In these circumstances, equity demands Endymion be treated as launching state with regard to liability for damage, to avoid an unreasonable result. To do otherwise would allow Endymion all of the benefits of the facility, without the responsibilities, while holding Lydios permanently responsible for indemnification of damages at the facility, despite being denied its rightful control. Endymion's attempts to recover damages from Lydios must be rejected as they are tainted with bad faith, because Endymion's conduct and refusal to vacate Fortuna was not in conformity with international law. Lydios could only diplomatically request

[160]F. Lyall & P. Larsen, *supra* fn. 7 at 105.

[161] Hersch Lauterpacht, INTERNATIONAL LAW, Collected Papers, 136.

[162] Motoko Uchitomi, *State Responsibility/Liability for "National" Space Activities*, 44 I.I.S.L. Proc. 51, 59 (2001).

Endymion to vacate the facility, to maintain the primary principle of using the Moon for only peaceful purposes.[163]

In this case, the relative fault of Lydios, in constructing a docking port for its own use 20 years earlier with sub-optimal hydraulic fluid, is arguably *de minimus* compared to Kandetta's leaking probe and failure to mitigate losses by launching its one good probe, as well as Endymion granting Kandetta permission to dock at Fortuna beyond their legal authority, while preventing Lydios from exercising its lawful jurisdiction and control over the Fortuna facility and the port in question.

[163]OST, *supra* fn. 5,, Art.IV; F. Lyall & P.Larsen, *supra* fn. 7„ at 524; P. G. Dembling and D. M. Arons, *supra* fn. 96, at. 434.

SUBMISSION TO THE COURT

For the foregoing reasons, the Government of Lydios, Applicant, respectfully requests the Court to adjudge and declare that:

A. Endymion violated international law by failing to comply with the Moon Protection Act including the failure to vacate Luna-1 when demanded by Lydios;

B. Lydios acted in conformity with international law by declining to grant permission for the Bennu to dock at Diana; and

C. Lydios is not liable for damages for the failed deployment of Kandetta's twin probes.