

2023 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

TEAM No. 5



IN THE INTERNATIONAL COURT OF JUSTICE

AT THE

PEACE PALACE, THE HAGUE

Case concerning

Laser Activities and the Use of Anti-Satellite Weapons in Outer Space

ARGYLIAM

V.

KOLIGIAN

ON SUBMISSION TO THE INTERNATIONAL COURT OF JUSTICE

MEMORIAL FOR THE APPLICANT

ARGYLIAM

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LIST OF ABBREVIATIONS

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| ARSIWA | Articles on Responsibility of States for Internationally Wrongful Acts |
| ASAT | Anti-Satellite |
| Compromis | Facts of the present case, as agreed by the Parties |
| COPUOS | Committee on the Peaceful Uses of Outer Space |
| ESA | European Space Agency |
| I.C.J. | International Court of Justice |
| ICSID | International Center for Settlement of Investment Disputes |
| Id | In the same place |
| Inc. | Incorporated |
| ITLOS | International Tribunal for the Law of the Sea |
| JAXA | Japan Aerospace Exploration Agency |
| LEO | Low Earth Orbit |
| LIAB | Convention on International Liability for Damage |
| NASA | National Aeronautics and Space Administration of U.S. |
| OST | Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies |
| P.C.A. | Permanent Court of Arbitration |
| P.C.I.J. | Permanent Court of International Justice |
| R.I.A.A. | Reports of International Arbitral Awards |
| SSA | Space Situational Awareness |
| SSV | Space Servicing Vehicle |
| TPNW | Treaty on the Prohibition of Nuclear Weapons |
| U.N. | United Nations |
| UNCED | United Nations Conference on Environment and Development |
| U.N.G.A. | United Nations General Assembly |
| v. | Versus |
| VCLT | Vienna Convention on the Law of Treaties |
| WMD | Weapons of Mass Destruction |

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QUESTIONS PRESENTED

- I. Whether Argylam violated international law by using Palver-3?
- II. Whether Argylam is liable for the destruction of Iriord-8?
- III. Whether Koligian violated international law by using ASAT missile against Palver-2?
- IV. Whether Koligian is liable for the destruction of Palver-2?

STATEMENT OF FACTS

BACKGROUND

Argyliam is a small island State that has become an international financial and banking center, famous for providing high-quality tourist services. With significant wealth, Argyliam invested in high-tech and advanced space applications. Since Argyliam could not effectively maintain viable and adequate armed forces to protect its neutrality. Considering its small size, Argyliam has attempted to fill this gap through space technology. Also, an explicit provision in the Constitution of Argyliam states that the State will remain outside international alliances and be permanently neutral.

Koligian is a space-faring State with a significant history of space exploration and exploitation. Since 2020 it has actively facilitated and encouraged the growth of its private sector in space activities.

Argyliam contracted with Charalg Inc. to obtain the information necessary to avoid collisions of objects in space. Charalg Inc. is a Space Situational Awareness service provider founded in 2028 and registered in Koligian. Charalg Inc. provided information and data through a global network of fully automated ground-based and space-based sensors capable of surveying and tracking space objects. Charalg Inc. provided information and data to a large number of States, enjoying a considerable reputation for reliability.

THE LAUNCH OF PALVER-1 -2 AND -3

On 1 January 2031, Argyliam launched three satellites with laser capabilities, named Palver- 1 -2 and -3 (“Palver”), which were registered in Argyliam’s national

register of space objects. Relevant information was also sent to the United Nations and placed on the U.N. Register. Located in the LEO, their deployment of the Palver system was mainly for experimental purposes to establish proof of concept and initial components for a system of satellite-to-satellite communication by laser beams and would contribute to the defense of the State.

KASSOF'S SPYING ACT

On 31 March 2031, the intelligence services of Argylia reported that “according to cross-checked information,” the satellite EVGA-1607 was conducting “continuous spying on critical infrastructure facilities and military sites” in Argylia. The orbit of EVGA-1607 periodically brought the satellite into proximity with Palver-3. EVGA-1607 was registered in the State of Kassof and had been placed in orbit at an altitude of 210 km above the surface of the Earth on 25 February 2031.

On 1 April 2031, a Note Verbale to the Ambassador of Kassof protested against the “spying of his country” through EVGA-1607 and requested its immediate cessation and non-repetition in the future. The Ambassador of Kassof replied that EVGA-1607 was a satellite deployed for purely commercial applications and no espionage had ever occurred through it.

THE LASER EMISSION BY PALVER-3 AND THE DESTRUCTION OF IRIORD-8

However, on 10 April 2031, Argylia was assured by the country's intelligence services that the espionage activities of EVGA-1607 continued. The Defense Minister of Argylia ordered Palver-3 to emit a laser beam directed at EVGA-1607 as the satellites were nearing conjunction to dazzle and blind EVGA-1607's sensors. This

action was undertaken based on data provided by Charalg Inc.

The data provided by Charalg Inc. was not completely accurate, resulting in a small but critical time delay in the emitted laser beam which by-passed EVGA-1607 completely and mis-hit Iriord-8, a satellite registered in Koligian. The laser damaged an electronic component of Iriord-8, further triggering a misfire of attitude control thrusters that pushed it out of orbit and into the atmosphere, where it was completely burned up.

The destruction of Iriord-8 was a setback for the Koligian economy and critical infrastructure. Its telecommunications services were greatly impacted, and many State services suffered damage.

THE KOLIGIAN’S DIPLOMATIC NOTE OF PROTEST

On 20 April 2031, the Ambassador of Koligian delivered a diplomatic note of protest to Argyliam to accuse Argyliam of “unlawful weaponization of outer space” and “aggressive military” space activities. In particular, Koligian called on the immediate deactivation of the three laser systems on Palver, given “the dangers their existence entailed for the freedom of all States to peacefully explore and use outer space.”

The Argyliam Foreign Minister clarified that “the responsibility for the unfortunate incident lies entirely with the Koligian company Charalg Inc., which recklessly provided us with false information” and that the Palver had been placed in orbit “in accordance with international law to protect the independence, territorial integrity and permanent neutrality of Argyliam.”

THE UNEXPECTED FAILURE OF PALVER-2

On 10 May 2031, Palver-2 unexpectedly ceased responding to commands. All ability to control it was lost and could not be restored; however, the laser beam remained in an active state, and there was “a slight possibility of spontaneous activation,” and the chances of this happening “were less than 3%”. In the meantime, the Palver-2 drifted toward a densely populated orbit with 150 functioning satellites. The individual satellites were registered in several States, including five registered in Koligian. Palver-2 was expected to enter this orbit on 13 May 2031.

Koligian asked Argyliam to take immediate measures to “manage the course” of Palver-2. Argyliam declared that having developed the necessary technology, it would immediately send a Space Servicing Vehicle (SSV) to re-boost Palver-2 for the satellite to gain the necessary altitude so there would be no possibility of interference with the operation of neighboring satellites. In response to questions from journalists, the Argyliam Minister of Defense said that the SSV had passed the ground-based experimental phase, which was “completely successful,” and had not yet been launched and tested in space.

THE LAUNCH AND RESULTS OF ASAT MISSILE BY KOLIGIAN

Soon in the evening of the day, Koligian launched a direct-ascent anti-satellite (ASAT) missile directed at and successfully hit Palver-2. The satellite, including its laser system, was completely destroyed. The debris generated by this strike accumulated in a part of the orbit and was burned up for re-entry into the atmosphere.

The entire Palver system required the synergy of all three individual lasers to work effectively, and without Palver-2, it was rendered inoperable. It would be several years

before Argyliam could restore its space laser protection system.

Argyliam and Koligian entered into diplomatic consultations, the results of which proved inconclusive. Argyliam then initiated these proceedings by Application to the International Court of Justice. Koligian accepted the jurisdiction of the Court, and the parties submitted this Agreed Statement of Facts.

THE RELEVANT TREATIES

Argyliam and Koligian are Parties to the United Nations Charter, the 1969 Vienna Convention on the Law of Treaties, and the five United Nations treaties on outer space.

SUMMARY OF ARGUMENTS

I. THE USE OF PALVER-3 WAS IN CONFORMITY WITH INTERNATIONAL LAW.

A. Article 2(4) of the *United Nations Charter* prohibits the use of force, which requires the gravity of the act and a hostile intent against another State. While the power of the laser beam lacked destructive capacity, the hit on Iriord-8 was accidental. Thus, the use of Palver-3 did not violate Article 2(4) of the *United Nations Charter*.

B. Since Palver-3 did not carry nuclear weapons or WMD, Argyliam did not violate Article IV of the *Outer Space Treaty*. Without intervening the jurisdiction and control of space objects, Argyliam did not violate Article VIII of the *Outer Space Treaty*. Under Article IX, Argyliam paid due regard to the corresponding interests of Koligian with proper assessment. Moreover, Argyliam did not bear the obligation to consult in lack of knowledge to assert potentially harmful interference.

C. In any event, the use of Palver-3 was justified by necessity since it was the only way to safeguard an outweighing essential interest against a grave and imminent peril.

II. ARGYLIAM IS NOT LIABLE FOR THE DESTRUCTION OF IRIORD-8.

A. Conforming to international obligations and acting with due diligence, Argyliam was not at both objective and subjective fault. Moreover, a sufficiently clear and certain causal link is not established due to the interruption of inaccurate data. Thus, Argyliam was not liable under Article III of the *Liability Convention*.

B. As demonstrated above, causality is not established. Thus, Argyliam is thus not liable under Article VII of the *Outer Space Treaty*.

C. Without any breach of its international obligations by using Palver-3, Argyliam is not liable under general international law.

D. Failing to authorize and continuously supervise the activities of Charalg Inc. which led to the destruction of Iriord-8, Koligian is barred to claim reparation due to the “clean hands” doctrine.

III. THE USE BY KOLIGIAN OF ASAT MISSILE AGAINST PALVER-2 CONSTITUTES A VIOLATION OF INTERNATIONAL LAW.

A. The use of ASAT missile by Koligian violated Article 2(4) of the *U.N. Charter* since the act constituted the use of force and was inconsistent with the purposes of the United Nations.

B. Koligian violated Article VIII of the *Outer Space Treaty* by interfering with Argyliam’s jurisdiction and control over Palver-2. Moreover, Koligian violated Article IX of the *Outer Space Treaty* by failing to pay due regard, causing contamination in outer space and breaching its obligation of international consultations.

C. Koligian cannot invoke necessity to preclude the wrongfulness of its act, since the use of ASAT missile was not the only way for Koligian to safeguard an outweighing essential interest against a grave and imminent peril.

IV. KOLIGIAN IS LIABLE UNDER INTERNATIONAL LAW FOR THE DESTRUCTION OF PALVER-2 BY USING ASAT MISSILE.

A. Koligian is liable under Article III of the *Liability Convention* since ASAT missile is a space object and the damage was due to Koligian’s fault.

B. Koligian is liable under Article VII of the *Outer Space Treaty* by establishing a causal link between the use of ASAT missile and the destruction of Palver-2.

C. Since Koligian’s use of ASAT missile constituted an internationally wrongful act causing the damage, Koligian is liable under general international law.

ARGUMENTS

I. THE USE OF PALVER-3 WAS IN CONFORMITY WITH INTERNATIONAL LAW.

As both Argyliam and Koligian are State Parties to the *U.N. Charter* and the *OST*, the Applicant submits that the use of Palver-3 did not violate Article 2(4) of the *U.N. Charter* [A] and relevant provisions of the *OST*. [B] In any event, the use of Palver-3 was justified by necessity. [C]

A. The use of Palver-3 did not violate Article 2(4) of the *U.N. Charter*.

Article 2(4) of the *U.N. Charter* prohibits the use of force in international relations.¹ The term “force”, as used in the *U.N. Charter*,² refers only to “armed force”.³ The proof of “armed force” rests on its gravity⁴ and hostile intent.⁵ The Applicant submits that the use of Palver-3 did not constitute the use of force, because it did not reach the threshold of armed force [1] and lacked hostile intent. [2]

1. The gravity of using Palver-3 did not reach the threshold of armed force.

The gravity of an act is its capacity to destroy lives or property.⁶ The assessment

¹ Article 2(4), *U.N. Charter*; Military and Paramilitary Activities in and against Nicaragua [hereinafter *Nicaragua*] (Nicar. v. U.S.), Judgment, 1986 I.C.J. 14, 100 (June 27); CHRISTINE GRAY, INTERNATIONAL LAW AND THE USE OF FORCE 8 (2008).

² Article 31, *VCLT*; Preamble, Articles 42, 44, 46, *U.N. Charter*.

³ Oliver Dörr, *Use of Force, Prohibition of*, MAX PLANCK ENCYCLOPEDIA OF PUBLIC INTERNATIONAL LAW, (Nov. 20, 2022), <https://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e427>.

⁴ *Corfu Channel* (U.K. v. Alb.), Judgment, 1949 I.C.J. 4, 35 (Apr. 9).

⁵ *Fisheries Jurisdiction* (Spain v. Can.), Judgment, 1998 I.C.J. 432, 466 (Dec. 4).

⁶ IAN BROWNLIE, INTERNATIONAL LAW AND THE USE OF FORCE BY STATES 362 (1963); HEATHER HARRISON DINNISS, CYBER WARFARE AND THE LAWS OF WAR 74 (2012); Samuli Haataja & Afshin Akhtar-Khavari, *Stuxnet and International Law on the Use of Force: An Informational Approach*, 7 CAMB. INT’L L.J. 99, 107 (2018).

of destructive capacity shall consider the means adopted and the nature of the target.⁷

The power of lasers used for telecommunications in LEO is lower than 10 watts,⁸ which, according to the Secretary-General's *Report on Current Developments*,⁹ could merely dazzle or temporarily blind sensors on board satellites. Mere dazzle or temporary blindness did not amount to the destruction of a sensor, since the damage is reversible.¹⁰

In casu, Palver-3 emitted a laser beam which was used for telecommunications in LEO.¹¹ The target of the beam was a sensor on board EVGA-1607.¹² Given the power level of the laser beam, the sensor would only be dazzled or temporarily blinded.¹³ In addition, the dazzle or temporary blindness would not result in the destruction of

⁷ Michael N. Schmitt, *Computer Network Attack and the Use of Force in International Law: Thoughts on a Normative Framework*, 37 COLUM. J. TRANSNAT'L L. 885, 911 (1999).

⁸ E. Luzhansky et al., *Overview and Status of the Laser Communication Relay Demonstration* (Feb. 26, 2016), <https://ntrs.nasa.gov/citations/20160001877>; B. S. Robinson et al., *Laser Communications for Human Space Exploration in Cislunar Space: ILLUMA-T and O2O*, 10524 FREE-SPACE LASER COMM'N & ATMOSPHERIC PROPAGATION XXX 1, 4 (2018); Abhijit Biswas et al., *Status of NASA's Deep Space Optical Communication Technology Demonstration*, IEEE INT'L CONF. ON SPACE OPTICAL COMM'N TECH. DEMONSTRATION 24, 26, (2017); S. Hao et al., *Low Earth Orbit Satellite internet constellations: status quo and suggestions*, 22 CHINA NEW TELECOMM. 19, 61 (2020).

⁹ U.N. Secretary-General, *Current developments in science and technology and their potential impact on international security and disarmament efforts*, at 12, U.N. Doc. A/77/188 (July 18, 2022). [*Report on Current developments*]

¹⁰ U.N. Secretary-General, *Further Practical Measures for the Prevention of an Arms Race in Outer Space*, at 4, U.N. Doc. A/77/80 (June 24, 2022) [*Report on Prevention of an Arms Race in Outer Space*]; David A. Koplow, *An Inference about Interference: A Surprising Application of Existing International Law to Inhibit Anti-Satellite Weapons*, 35 U. PA. J. INT'L L. 737, 799 (2014).

¹¹ *Compromis*, ¶5.

¹² *Compromis*, ¶8.

¹³ DAVID WRIGHT ET AL., *THE PHYSICS OF SPACE SECURITY: A REFERENCE MANUAL* 117 (2005); David A. Koplow, *Reverse Distinction: A U.S. Violation of the Law of Armed Conflict in Space*, 13 HARV. NAT'L SEC. J. 25, 68 (2022).

EVGA-1607, because the sensor is used to collect data from the Earth,¹⁴ which is independent of the operation of the satellite.¹⁵

Thus, the use of Palver-3 was incapable of destroying property and therefore did not reach the threshold of armed force.

2. Argyliam had no hostile intent against Koligian by using Palver-3.

The “hostile intent” indicates that a State intends to compel another State to do or refrain from doing something.¹⁶ It presupposes the awareness of an action against another State.¹⁷ An act by mistake is precluded from the use of force.¹⁸

In casu, Argyliam directed a laser beam at EVGA-1607, a satellite belonging to a third country.¹⁹ To stop the spying, the laser beam was targetted at a sensor on board EVGA-1607.²⁰ The targeting is precise based on the capabilities of SSA technologies.²¹

¹⁴ Brian D. Green, *Space Situational Awareness Data Sharing: Safety Tool or Security Threat*, 75 A.F. L. REV. 39, 83 (2016).

¹⁵ Michael N. Schmitt, *International Law and Military Operations in Space*, 10 UNYB 89, 118 (2006).

¹⁶ M. WELL, IRAQ, KWAIT: THE HOSTILITIES AND THEIR AFTERMATH 725 (1993).

¹⁷ OLIVIER CORTEN, THE LAW AGAINST WAR: THE PROHIBITION ON THE USE OF FORCE IN CONTEMPORARY INTERNATIONAL LAW 78 (2021).

¹⁸ U.N. GAOR, 25th Sess., 67 mtg., at 3, 31, U.N. Doc. A/AC.134/SR.67-78 (July 30, 1970); U.N. GAOR, 24th Sess., 32 mtg., at 38, U.N. Doc. A/AC.134/SR.25-51 (Mar. 10, 1969); U.N. GAOR, 9th Sess., 408 mtg., at 58, U.N. Doc. A/C.6/SR.408 (Oct. 25, 1954).

¹⁹ *Compromis*, ¶8.

²⁰ Bengt Anderberg & Ove Bring, *Battlefield Laser Weapons and International Law*, 57 NORDIC J. INT’L L. 457, 459 (1988); John W. Heath Jr., *Mahan's Legacy, How Will a New Generation of Weapons Fit into Competing Visions of Outer Space*, 43 PROC. ON L. OUTER SPACE 298, 300 (2000).

²¹ ESA, EUROPE’S EYES ON THE SKIES 47-48 (2008).

However, due to an inaccuracy in the data, Iriord-8 was wrongly hit.²² Although Argyliam chose a reputable company, Charalg Inc, as the data provider,²³ Argyliam was not able to verify the SSA data.²⁴ Thus, Argyliam could not be aware of the inaccuracy and had no hostile intent against Koligian.

Therefore, the use of Palver-3 failed to meet the criteria of armed force and did not violate Article 2(4) of the U.N. Charter.

B. The use of Palver-3 did not violate relevant provisions of the *OST*.

The use of Palver-3 did not violate Article IV of the *OST* because it not carry nuclear weapons or WMD, [1] Article VIII of the *OST* because it did not interfere with Koligian’s jurisdiction and control, [2] and Article IX of the *OST* because it complied with the principle of “due regard” and did not trigger the obligation to consult. [3]

1. The use of Palver-3 did not violate Article IV of the *OST*.

Under Article IV of the *OST*, States are prohibited to place in orbit around the Earth any objects carrying nuclear weapons or other kinds of WMD.²⁵

In the interpretation of this Article, mild nuclear reactions for non-weaponization purposes are not prohibited.²⁶ The sorting of purpose is irrelevant to the actual use.²⁷

²² *Compromis*, ¶9.

²³ *Compromis*, ¶3.

²⁴ *Compromis*, ¶9;

²⁵ Article IV, *OST*.

²⁶ Article 1, *TPNW*; G.A. Res. 47/68, *Principles Relevant to the Use of Nuclear Power Sources in Outer Space* (Dec.14, 1992); Stephen Gorove, *Arms Control Provisions in the Outer Space Treaty: A Scrutinizing Reappraisal*, 3 GA. J. INT’L & COMP. L. 114, 115 (1973); Fabio Tronchetti, *Chapter 6*, in *HANDBOOK OF SPACE LAW* 336 (Frans von der Dunk et al. eds., 2015).

²⁷ Kai-Uwe Schrogl & Julia Neumann, *Article IV*, in 1 *COLOGNE COMMENTARY ON*

WMD have been understood as weapons designed and capable of causing widespread devastation and loss of life, in particular chemical, biological, or nuclear weapons.²⁸

In casu, Palver-3 was for experimental purposes in telecommunications²⁹ where weapons are irrelevant.³⁰ Even if the operation of Palver-3 involved nuclear payloads to propel the satellite or generate lasers, it is not for weaponized use and the production of nuclear bombs.³¹ As the laser beam emitted by Palver-3 was not capable of destroying property,³² it did not fall within the scope of WMD.

Thus, Palver-3 did not carry nuclear weapons or WMD under Article IV of the *OST*. Therefore, the use of Palver-3 did not violate Article IV of the *OST*.

2. Argylam did not violate Article VIII of the *OST*.

Article VIII of the *OST* lays down that a State of registry retains jurisdiction and control over the space object.³³ “Jurisdiction” concerns the power of a State to adopt valid and binding legal norms over property and personnel thereof.³⁴ “Control” means

SPACE LAW 77 (Stephan Hobe et al. eds., 2009).

²⁸ S.C. Comm. for Conventional Armaments, Res. at Its Thirteenth Mtg., at 2, U.N. Doc. S/C.3/32/Rev.1 (Aug.18, 1948); Setsuko Aoki, *Law and Military Uses of Outer Space*, in ROUTLEDGE HANDBOOK OF SPACE LAW 204 (Ram S. Jakhu et al. eds., 2017).

²⁹ *Compromis*, ¶5.

³⁰ Christopher M. Petras, *The Debate over the Weaponization of Space: A Military-Legal Conspectus*, 28 AIR & SPACE L. 171, 186 (2003); Adam G. Quinn, *The New Age of Space Law: The Outer Space Treaty and the Weaponization of Space*, 17 MINN. J. INT’L L. 475, 494 (2008).

³¹ *Compromis*, ¶5.

³² *Supra* Argument I(A)(1).

³³ Article VIII, *OST*.

³⁴ BIN CHENG, *STUDIES IN INTERNATIONAL SPACE LAW* 72, 86 (1997); MALCOLM N. SHAW, *INTERNATIONAL LAW* 483 (2017); MANFRED LACHS, *THE LAW OF OUTER SPACE – AN EXPERIENCE IN CONTEMPORARY LAW-MAKING* 66 (2010).

the right to adopt technical rules³⁵ which must be based on legitimate jurisdiction and not on factual control capabilities.³⁶

In casu, Argyliam did not seek to exercise its jurisdiction over property in Iriord-8, which respected Koligian's jurisdiction over its satellite. Although the emission of the laser beam deprived Koligian of its effective control over the technical arrangements for Iriord-8,³⁷ the use of Palver-3 did not violate Koligian's right to adopt technical rules based on legitimate jurisdiction. Thus, Argyliam did not violate Article VIII of the *OST*.

3. Argyliam did not violate Article IX of the *OST*.

Argyliam did not violate Article IX of the *OST* since it did not bear the obligation to consult with Koligian [a] and did not violate the principle of "due regard". [b]

a. Argyliam did not bear the obligation to consult with Koligian under Article IX of the *OST*.

According to Article IX of the *OST*, an obligation to consult arises when the conduct would cause potentially harmful interference with the activities of other States for peaceful purposes.³⁸ "Having reason to believe" means having knowledge to assert potentially harmful interference accompanied by the planned activity.³⁹

³⁵ Bernhard Schmidt-Tedd & Stephen Mick, *Article VIII*, in 1 COLOGNE COMMENTARY ON SPACE LAW 157 (Stephan Hobe et al. eds., 2009).

³⁶ Gabriel Lafferranderie, *Jurisdiction and Control of Space Objects and the Case of an International Intergovernmental Organisation*, 54 GER. J. AIR & SPACE L. 228, 230 (2005).

³⁷ *Compromis*, ¶9.

³⁸ Article IX, *OST*.

³⁹ Michael C. Mineiro, *Article IX's Principle of Due Regard and International Consultations: An Assessment in Light of the European Draft Space Code-of-Conduct*, 53 PROC. INT'L INST. SPACE L. 674, 678 (2010).

In casu, Argyliam used Palver-3 to emit the laser beam directly against the target.⁴⁰

Given the preciseness of the laser beam and the reliability of data,⁴¹ Argyliam had no reason to believe that the use of Palver-3 would interfere with other space objects.⁴²

Thus, Argyliam was not obliged to consult other States including Koligian.

Therefore, Argyliam did not bear the obligation to consult any State under Article IX of the *OST*.

b. Argyliam did not violate the principle of “due regard” under Article IX of the OST.

Article IX of the *OST* stipulates that States shall pay due regard to the corresponding interests of other State Parties.⁴³ “Due regard” refers to the performance of an act with a certain standard of care, attention, or observance.⁴⁴

The UNCOPUOS *LTS Guidelines* is a “soft law” instrument formulated to set forth the technical standards of space activities as legally binding agreements cannot be reached.⁴⁵ In line with the *LTS Guidelines*, when using laser beams in outer space, measures of precaution include reducing the probability of accidental illumination and taking a quantitative evaluation of the laser radiation power.⁴⁶

⁴⁰ *Compromis*, ¶8.

⁴¹ *Supra* Argument I(A)(2)(b).

⁴² *Compromis*, ¶3.

⁴³ Article IX, *OST*.

⁴⁴ Sergio Marchisio, *Article IX*, in 1 COLOGNE COMMENTARY ON SPACE LAW 27 (Stephan Hobe et al. eds., 2009).

⁴⁵ Mahir Al Banna, *Can Soft Law Regulate Outer Space Activities?*, 125 J. L. POL’Y & GLOBALIZATION 56, 56-61 (2022); Yuval Shany, *Sources and the Enforcement of International Law*, in THE OXFORD HANDBOOK OF THE SOURCES OF INTERNATIONAL LAW 808 (Samantha Besson & Jean d’Aspremont eds., 2017).

⁴⁶ COPUOS, *Guidelines for the Long-term Sustainability of Outer Space Activities of*

In this case, the laser beam was emitted as the satellites were nearing conjunction,⁴⁷ and based on data provided by a company enjoying a considerable reputation for reliability.⁴⁸ Moreover, Argyliam particularly chose the laser beam used for telecommunication,⁴⁹ whose power level was lower than 10 watts.⁵⁰ Thus, by conforming to the *LTS Guidelines*, the use of Palver-3 was acted with due regard.

In conclusion, the use of Palver-3 did not violate the provisions of the *OST*.

C. The use of Palver-3 was justified by necessity.

In *Gabčíkovo-Nagymaros case*,⁵¹ necessity is a ground to preclude wrongfulness as customary international law.⁵² A State may invoke necessity when certain conditions laid down in Article 25 of the *ARSIWA* are cumulatively satisfied.⁵³

The Applicant submits that in any event, the use of Palver-3 was justified by necessity because the use of Palver-3 was to safeguard an outweighing essential interest

the Committee on the Peaceful Uses of Outer Space, at 52, 66, U.N. Doc. A/74/20 (June 12-21, 2019). [*LTS Guidelines*]

⁴⁷ *Compromis*, ¶8.

⁴⁸ *Compromis*, ¶3.

⁴⁹ *Compromis*, ¶5.

⁵⁰ *Report on Current developments*, *supra* note 9, at 12.

⁵¹ *Gabčíkovo-Nagymaros Project (Hun. v. Slov.)*, Judgment, 1997 I.C.J. 7, 40 (Sept. 25). [hereinafter *Gabčíkovo-Nagymaros*]

⁵² *Fisheries Jurisdiction*, *supra* note 5; *M/V Saiga (No.2) (St. Vincent v. Guinea)*, Case No.2, Judgment of July 1, 1999, ITLOS Rep. 10, 55; *LG&E Energy Corp. et al. v. Argentine Republic*, ICSID Case No. ARB/02/1, Decision on Liability, ¶ 256 (Oct. 3, 2006), 21 ICSID Rev. 203, 265. [hereinafter *LG&E Energy*]

⁵³ *Gabčíkovo-Nagymaros*, *supra* note 51.

[1] against a grave and imminent peril⁵⁴ [2] as the only way.⁵⁵ [3]

1. The use of Palver-3 was to safeguard an outweighing essential interest.

According to Article 25(1) of the *ARSIWA*, the purpose of the act must be to safeguard an essential interest outweighing its harm to another interest.⁵⁶ That national security is an essential interest of a State looms large in the *S.S. Wimbledon Case*.⁵⁷

In casu, the EVGA-1607 was conducting espionage activities on the critical military sites of Argyliam.⁵⁸ This conduct unveiled critical national secrets of Argyliam, putting its national security at stake.⁵⁹ By contrast, as submitted above,⁶⁰ the anticipatory impairment was only temporary blindness of that sensor,⁶¹ even without affecting the operation of EVGA-1607.⁶²

In comparison, the use of Palver-3 was to safeguard Argyliam's national security, which is an outweighing essential interest.

2. The use of Palver-3 was against a grave and imminent peril.

A grave and imminent peril shall be objectively established and not merely

⁵⁴ Int'l Law Comm'n, 53rd Sess., Article 25(1)(a), *Articles on Responsibility of States for Internationally Wrongful Acts*, U.N. Doc. A/56/83 (2001). [hereinafter *ARSIWA*]

⁵⁵ Article 25(1)(b), *ARSIWA*.

⁵⁶ Int'l Law Comm'n, Rep. on the Work of Its 53rd Sess., at 173, U.N. Doc. A/56/10 (2001).

⁵⁷ *S.S. Wimbledon* (U.K. v. Ger.), 1923 P.C.I.J. 40, Ser. A, No. 1 (Aug. 17).

⁵⁸ *Compromis*, ¶6.

⁵⁹ Brian D. Green, *supra* note 14; The National Space Policy, Article 1(d), (2020) (U.S.); The Space Industry Regulations, Articles 191, (2021) (U.K.).

⁶⁰ *Supra* Argument I(A)(1).

⁶¹ *Supra* Argument I(A)(1).

⁶² Michael N. Schmitt, *supra* note 15.

apprehended as possible.⁶³ Considering the secrecy of certain activities, this Court determined in the *Nicaragua case* that internal files of the intelligence service can be deemed as evidence.⁶⁴

In casu, the critical infrastructure facilities and military sites of Argyliam were under continuous spying of EVGA-1607.⁶⁵ The spy satellite was constantly acquiring detailed data of the national secrets of Argyliam,⁶⁶ which could be transmitted and utilized in almost real time.⁶⁷ As a result, the continuous espionage seriously undermined the national security of Argyliam thereby.⁶⁸

The above evidence is admissible because it is based on cross-checked and corroborated information gathered by the Intelligence Agency.⁶⁹ Thus, Palver-3 was used against a grave and imminent peril.

3. The use of Palver-3 was the only way to safeguard Argyliam's essential interest.

The term "only way" emphasized the exclusion of other lawful acts, including unilateral acts or international cooperation.⁷⁰ Legitimate ASAT technology requires

⁶³ *Gabčíkovo-Nagymaros*, *supra* note 51.

⁶⁴ *Nicaragua*, *supra* note 1, at 38.

⁶⁵ *Compromis*, ¶6.

⁶⁶ Colleen Hanley, *Regulating Commercial Remote Sensing Satellites over Isreal: A Black Hole in the Open Skies Doctrine*, 52 ADMIN. L. REV. 423, 426 (2000).

⁶⁷ Michael N. Schmitt, *Bellum Americanum: The U.S. View of Twenty-First Century War and Its Possible Implications for the Law of Armed Conflict*, 19 MICH. J. INT'L L. 1051, 1064 (1998).

⁶⁸ Brian D. Green, *supra* note 14.

⁶⁹ *Compromis*, ¶¶6, 8.

⁷⁰ Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, 2004 I.C.J. 136, 154, 194 (July 9).

precision⁷¹ and minimal debris generation.⁷² Only cyber attacks to interfere with the command of the satellite⁷³ meets the standard of legitimacy.⁷⁴

In casu, Argyliam had no chance of international cooperation given Kassof's denial of its spying activities.⁷⁵ In respect of unilateral techniques, since the actionable satellite—Palver-3 was launched to only test satellite-to-satellite telecommunication,⁷⁶ an effective cyber attack was not feasible in lack of imperative installation.⁷⁷

Thus, the use of Palver-3 was the only way for Argyliam to safeguard its national security and was justified by necessity. Therefore, the use of Palver-3 did not violate international law.

II. ARGYLIAM IS NOT LIABLE FOR THE DESTRUCTION OF IRIORD-8.

The Applicant submits that Argyliam is not liable for the destruction of Iriord-8 under Article III of the *LIAB* [A], Article VII of the *OST* [B] and general international law [C]. Moreover, the claim of Koligian shall be barred due to the principle of “clean

⁷¹ David A. Koplow, *Asat-isfaction: Customary International Law and the Regulation of Anti-Satellite Weapons*, 30 MICH. J. INT'L L. 1187, 1198 (2009); Dakota S. Rudesill, *Precision War and Responsibility: Transformation Military Technology and the Duty of Care under the Laws of War*, 32 YALE J. INT'L L. 517, 534 (2007).

⁷² COPUOS, *Inter-Agency Space Debris Coordination Committee space debris mitigation guidelines*, at 10, U.N. Doc. A/AC.105/C.1/L.366 (July 17, 2018). [*Debris Mitigation Guidelines*].

⁷³ The National Space Policy, Article 1(d), (2020) (U.S.); Christopher M. Petras, *The Use of Force in Response to Cyber-Attack on Commercial Space Systems – Reexamining Self-Defense in Outer Space in Light of the Convergence of U.S. Military and Commercial Space Activities*, 67 J. AIR L. & COM. 1213, 1230 (2002).

⁷⁴ FRANCIS LYALL & PAUL B. LARSEN, *SPACE LAW: A TREATISE* 2ND EDITION 839 (2020).

⁷⁵ *Compromis*, ¶7.

⁷⁶ *Compromis*, ¶5.

⁷⁷ NATO, *Rule 61*, in TALLINN MANUAL 2.0 ON THE INTERNATIONAL LAW APPLICABLE TO CYBER OPERATIONS 288 (Michael N. Schmitt et al. eds., 2017).

hands”. [D]

A. Argylia is not liable under Article III of the *LIAB*.

Under Article III of the *LIAB*, liability arises when damage occurs in outer space between space objects from different launching States.⁷⁸ The liability covered under Article III of the *LIAB* is fault-based and causation between the space object and damage shall be established.⁷⁹

As Argylia and Koligian were qualified launching States,⁸⁰ the Applicant submits that Argylia is not liable under Article III of the *LIAB* since Argylia is not at fault [1] and there is no established causal link between the use of Palver-3 and the destruction of Iriord-8. [2]

1. Argylia was not at fault.

No definition of “fault” exists in the *LIAB*⁸¹ and one has to “fall back” on general international law.⁸² In general international law, “fault” arises on two grounds: objective fault and subjective fault.⁸³ The Applicant submits that Argylia is not at fault on both objective [a] and subjective grounds. [b]

⁷⁸ Article III, *LIAB*.

⁷⁹ Article III, *LIAB*; Bin Cheng, *International Responsibility and Liability for Launch Activities*, 20 AIR & SPACE L. 297, 297 (1995).

⁸⁰ *Compromis*, ¶¶5, 9.

⁸¹ Carl Q. Christol, *International Liability for Damage Caused by Space Objects*, 74 AM. J. INT’L L. 346, 368 (1980).

⁸² *Chapter III: The General Problem Underlying the Drafting of Part 2 of the Draft Articles*, [1982] 2(1) Y.B. INT’L L. COMM’n 30, ¶54.

⁸³ Frans G. von der Dunk, *Liability versus Responsibility in Space Law: Misconception or Misconstruction*, 34 PROC. ON L. OUTER SPACE 363, 366 (1991).

a. Argyliam was not at objective fault.

Laid down in the *Nottebohm case*,⁸⁴ objective fault refers to the breach of an obligation imposed by law. The use of Palver-3 did not breach Argyliam's international obligations.⁸⁵ Even if this Court finds the opposite, the wrongfulness of Argyliam's conduct is precluded by necessity.⁸⁶ Thus, Argyliam was not at objective fault.

b. Argyliam was not at subjective fault.

Subjective fault denotes the intent or negligence to cause damage,⁸⁷ which can be evaluated by a certain degree of due diligence.⁸⁸ According to the *Genocide case*, due diligence requires States to exercise reasonable measures available to prevent harm.⁸⁹ Liability can not be incurred simply because the desired result is not achieved.⁹⁰

As demonstrated above,⁹¹ whilst Argyliam laments the outcome of the mishit on Iriord-8, Argyliam fulfilled its duty of due diligence by taking two reasonable measures

⁸⁴ *Nottebohm (Liechtenstein v. Guatemala)*, Judgment, 1955 I.C.J. 4, 10 (Apr. 6).

⁸⁵ *Supra* Argument I(A); *Supra* Argument I(B).

⁸⁶ *Supra* Argument I(C).

⁸⁷ Jochen Pfeifer, *International Liability for Damage Caused by Space Objects*, 30 GER. J. AIR & SPACE L. 215, 225 (1981).

⁸⁸ Martha Mejia-Kaiser, *Collision Course: 2008 Iridium-Cosmos Crash*, 52 PROC. INT'L INST. SPACE L. 274, 277 (2009); JOANNA KULESZA, *DUE DILIGENCE IN INTERNATIONAL LAW* 28 (2016).

⁸⁹ Application of the Convention on the Prevention and Punishment of the Crime of Genocide [hereinafter *Genocide*] (*Bosn. & Herz. v. Serb. & Montenegro*), Judgment, 2007 I.C.J. 43, 430 (Feb. 26); GEORGE T. HACKET, *SPACE DEBRIS AND THE CORPUS IURIS SPATIALIS* 66 (1994); Setsuko Aoki, *Standard of Due Diligence in Operating a Space Object*, 55 PROC. INT'L INST. SPACE L. 392, 396 (2012).

⁹⁰ *Genocide*, *supra* note 89.

⁹¹ *Supra* Argument I(B)(3)(b).

to avert harm.⁹² Thus, Argyliam is not subjectively at fault.

2. There is no established causal link between Palver-3 and the destruction of Iriord-8.

According to Article III of the *LIAB*, causation is indispensable to liability.⁹³ The standard of causality is whether there is a sufficiently direct and certain causal link between the use of the space object and damage.⁹⁴ The causal link must not be interrupted by a subsequent intervening event.⁹⁵

In casu, the inaccuracy of data resulted in a critical time delay,⁹⁶ leading to a mis-hit on Iriord-8.⁹⁷ By providing wrong data, the conduct of Charalg Inc. interrupted the causal link between the use of Palver-3 and the damage of Iriord-8 as a subsequent intervening event. Since Charalg Inc., a national registered in Koligian,⁹⁸ is a non-governmental entity of Koligian,⁹⁹ Argyliam is not responsible for the conduct of the company.¹⁰⁰ Thus, the destruction of Iriord-8 was not caused by Argyliam.

⁹² *LTS Guidelines, supra* note 46.

⁹³ Article III, *LIAB*.

⁹⁴ *Genocide, supra* note 89, at 234; Ahmadou Sadio Diallo (Guinea v. Dem. Rep. Congo), Judgment, 2012 I.C.J. 324, 332 (June 19); Certain Activities Carried Out by Nicaragua in the Border Area (Costa Rica v. Nicar.), Judgment, 2018 I.C.J. 15, 26 (Feb. 2).

⁹⁵ *M/V Norstar (No.25) (Pan. v. It.)*, Case No.25, Judgment of Apr. 10, 2019, ITLOS Rep. 7, 99; H.L.A. HART & T. HONORE, *CAUSATION IN THE LAW* 163 (1961).

⁹⁶ *Compromis*, ¶9.

⁹⁷ *Compromis*, ¶9.

⁹⁸ *Compromis*, ¶3.

⁹⁹ Bin Cheng, *The Extra-Terrestrial Application of International Law*, 18 *CURRENT LEGAL PROBS.* 132, 135 (1965); Commercial Space Launch Act, Section 405.7, (1984) (U.S.); Space Activities Regulations, Article 1.03, (2001) (Aus.); Article 6, *Multilateral Space Station Agreement*.

¹⁰⁰ Article VI, *OST*.

Therefore, Argyliam is not liable for the damage under Article III of the *LIAB*.

B. Argyliam is not liable under Article VII of the *OST*.

Article VII of the *OST* enshrines the liability of a launching State for damage caused by its space object.¹⁰¹ Thus, causality is a necessary condition for liability.¹⁰² As demonstrated above, the destruction of Iriord-8 was not caused by Palver-3.¹⁰³ Thus, Argyliam is not liable under Article VII of the *OST*.

C. In any event, Argyliam is not liable under general international law.

Under general international law, a State committing an internationally wrongful act is liable for damage caused thereby.¹⁰⁴ With a conduct in breach of international obligations attributable to a State, that State commits an internationally wrongful act.¹⁰⁵

As submitted above, Argyliam did not breach its international obligations by using Palver-3.¹⁰⁶ Alternatively, the use of Palver-3 was justified by necessity.¹⁰⁷ In addition, the causal link was cut off.¹⁰⁸ Therefore, in any event, Argyliam is not liable under general international law.

¹⁰¹ Article VII, *OST*.

¹⁰² Lesley J. Smith & Armel Kerrest, *Article VII, in 1 COLOGNE COMMENTARY ON SPACE LAW* 126, 141 (Stephan Hobe et al. eds., 2009); *Armed Activities on the Territory of the Congo* [hereinafter *Armed Activities*] (Dem. Rep. Congo v. Uganda), Judgment, 2022 I.C.J. 1, 32 (Feb. 9).

¹⁰³ *Supra* Argument II(A)(2).

¹⁰⁴ *Factory at Chorzów (Ger.v. Pol.)*, Jurisdiction, 1927 P.C.I.J. 21, Ser. A, No.9 (July 26); *Armed Activities*, *supra* note 102, at 257.

¹⁰⁵ Article 2, *ARSIWA*.

¹⁰⁶ *Supra* Argument I.

¹⁰⁷ *Supra* Argument I(C).

¹⁰⁸ *Supra* Argument II(A)(2).

D. The claim of Koligian shall be barred under the doctrine of “clean hands”.

General principles of law shall lead this Court to decide on cases.¹⁰⁹ The “clean hands” doctrine is espoused by judicial decisions,¹¹⁰ scholars,¹¹¹ and State practice¹¹² as a general principle of law. Under this doctrine, a claimant’s claims shall be barred due to his illegal conduct in relation to the claims he brings.¹¹³ Koligian’s claim is barred for the violation of its supervision obligation under Article VI of the *OST*.

According to Article VI of the *OST*, the space activities of non-governmental entities require authorization and continuing supervision by the appropriate State.¹¹⁴ Specifically, a State should adopt means of receiving information, and subsidiary means for intervention or deterrence,¹¹⁵ which is appreciated by numerous State practices.¹¹⁶

¹⁰⁹ Art. 38, ¶1, *I.C.J. Statute*.

¹¹⁰ *Diversion of Water from the Meuse (Neth. v. Belg.)*, 1937 P.C.I.J. 95, Ser. A/B, No.70 (June 28); *Arrest Warrant of 11 April 2000 (Dem. Rep. Congo v. Belg.)*, Judgment, 2002 I.C.J. 3, 16 (Feb. 14) (Dissenting Opinion of Judge Van den Wyngaert).

¹¹¹ GERALD FITZMAURICE, *HAGUE ACADEMY OF INTERNATIONAL LAW* 119 (1957); L. J. Laplante, *The Law of Remedies and the Clean Hands Doctrine: Exclusionary Reparation Policies in Peru's Political Transition*, 23 *AM. U. INT’L L. REV.* 51, 52 (2007).

¹¹² *Verbatim Record (1999/35), Legality of Use of Force (Yugoslavia v. U.S.)*, I.C.J. *Verbatim Record* 10 (May 12, 1999).

¹¹³ Bin Cheng, *General Principles of Law as Applied by International Courts and Tribunals*, 3 *INT’L & COMPAR. L. Q.* 368, 369 (1953).

¹¹⁴ Article VI, *OST*.

¹¹⁵ Michael Gerhard, *Article VI*, in 1 *COLOGNE COMMENTARY ON SPACE LAW* 103, 119 (Stephan Hobe et al eds., 2009).

¹¹⁶ *Land Remote Sensing Policy*, Section 203, (1992) (U.S.); *Act on Securing Proper Handling of Satellite Remote Sensing Records*, Article 13, (2016) (Japan); *The French Space Operations Act*, Articles 23-25, (2008) (Fr.); *Space Development Promotion Act*, Articles 24-28, (2005) (S. Kor.); *Argentina Digital Act: Information, Technologies and communications*, Articles 64-67, (2014) (Arg.); *Ordinance of the Supreme Soviet of Ukraine on Space Activity*, Article 8, (1996) (Ukr.); *Act on Space Activities*, Section 3-5, (1982) (Swed.).

As demonstrated above,¹¹⁷ Charalg Inc. is a non-governmental entity of Koligian. Since Koligian was particularly advanced in the digitalization of telecommunication,¹¹⁸ it was capable of receiving information or imposing intervention or deterrence. Nonetheless, while Charalg Inc. provided inaccurate data twice,¹¹⁹ Koligian failed to adopt any measure aforementioned. Thus, the illegal conduct of Koligian is established by omission.¹²⁰ Therefore, Koligian's claim, which derived from its violation of international law, shall be barred.

In conclusion, Argyliam is not liable for the destruction of Iriord-8.

III. THE USE BY KOLIGIAN OF ASAT MISSILE AGAINST PALVER-2 CONSTITUTES A VIOLATION OF INTERNATIONAL LAW.

The Applicant submits that the use by Koligian of ASAT missile against Palver-2 violated Article 2(4) of the *U.N. Charter*; [A] and the relevant provisions of the *OST*. [B] In any event, its wrongfulness cannot be precluded by invoking necessity. [C]

A. The use of ASAT missile violates Article 2(4) of the *U.N. Charter*.

Article 2(4) of the *U.N. Charter* prohibits the use of force inconsistent with the *Charter's* purposes,¹²¹ which also applies in outer space.¹²² Koligian's use of ASAT

¹¹⁷ *Supra* Argument II(A)(2).

¹¹⁸ *Compromis*, ¶10.

¹¹⁹ *Compromis*, ¶¶3, 9.

¹²⁰ Paul Stephen Dempsey, *Liability for Damage Caused by Space Objects under International and National Law*, 54 PROC. INT'L INST. SPACE L. 165, 167 (2011).

¹²¹ *Supra* Argument I(A).

¹²² IAN BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW, 256–257 (2003); P. JANKOWITSCH, LEGAL ASPECTS OF MILITARY SPACE ACTIVITIES, IN SPACE LAW - DEVELOPMENT AND SCOPE 145-148 (1992).

missile violates Article 2(4) of the *U.N. Charter* because it constitutes the use of force, [1] and self-defense cannot be invoked to justify the use of force. [2]

1. The use of ASAT missile by Koligian constitutes the use of force.

The use of force in Article 2(4) of the *U.N. Charter* is generally accepted as the use of armed force.¹²³ According to the benchmark of armed force aforementioned,¹²⁴ the use by Koligian of ASAT missile amounts to the “armed force” because it possesses both the gravity [a] and hostile intent [b] elements.

a. The gravity of Koligian’s use of an ASAT missile reaches the threshold of armed force.

Armed force is based on the capacity to destroy lives and property¹²⁵ in its specific context.¹²⁶ In outer space, the destructive capacity could be evidenced by using weapons¹²⁷ with a certain level of kinetic impact.¹²⁸ This involves the application of severe physical force to cause explosions¹²⁹ or high-speed collisions.¹³⁰

¹²³ L.M. GOODRICH & E. HAMBRO, CHARTER OF THE UNITED NATIONS: COMMENTARY AND DOCUMENTS 70 (1946); Albrecht Randelzhofer & Oliver Dörr, *Article 2(4)*, in 1 THE CHARTER OF THE UNITED NATIONS: A COMMENTARY, 200, 234 (Bruno Simma ed. 2012); ROSALYN HIGGINS, PROBLEMS AND PROCESS: INTERNATIONAL LAW AND HOW WE USE IT 248 (1994); INTERNATIONAL LAW ASSOCIATION, FINAL REPORT ON AGGRESSION AND THE USE OF FORCE 4 (2018).

¹²⁴ *Supra* Argument I(A).

¹²⁵ IAN BROWNLIE, *supra* note 6.

¹²⁶ OLIVIER CORTEN, *supra* note 17, at 67.

¹²⁷ JAMS BOND, PEACETIME FOREIGN DATA MANIPULATION AS ONE ASPECT OF OFFENSIVE INFORMATION WARFARE QUESTIONS OF LEGALITY UNDER THE UNITED NATIONS CHARTER ARTICLE 2(4) 78 (1996).

¹²⁸ *Corfu Channel*, *supra* note 4, at 13, 35.

¹²⁹ JAMS BOND, *supra* note 127.

¹³⁰ David A. Koplow, *supra* note 10, at 737.

The direct-ascent ASAT missile is classified as a kinetic-energy weapon,¹³¹ recognized by the Secretary-General's report,¹³² with the capacity to cause a high-speed collision or explosion of satellites.¹³³ In outer space, using a missile to cause a kinetic impact will amount to an attack physically.¹³⁴

In casu, Koligian launched a direct-ascent ASAT missile targeting Palver-2.¹³⁵ It successfully hit the target, as to exert kinetic impacts on the satellite via physical force.¹³⁶ Ultimately, Palver-2 was rammed into at a fatal speed and exploded,¹³⁷ with its assets completely destroyed.¹³⁸ Thus, the use of ASAT missiles by Koligian amounts to the gravity of armed force.

b. Koligian had hostile intent against Argylia by using ASAT missile.

“Hostile intent” embodies that a State intends to compel another State to refrain from doing something,¹³⁹ as revealed by this court,¹⁴⁰ a prerequisite for the use of force.¹⁴¹ Moreover, it does not depend on the fundamental motives guiding the State's

¹³¹ Deborah Housen-Couriel, *Cybersecurity and Anti-Satellite Capabilities (ASAT), New Threats and New Legal Responses*, 4 J.L. & CYBER WARFARE 116, 116 (2015).

¹³² *Report on Current Developments*, *supra* note 9.

¹³³ David A. Koplow, *supra* note 71, at 1201.

¹³⁴ WILLIAM H. BOOTHBY, *THE LAW OF TARGETING* 362 (2012).

¹³⁵ *Compromis*, ¶14.

¹³⁶ *Compromis*, ¶14.

¹³⁷ *Compromis*, ¶14.

¹³⁸ Article VIII, *OST*.

¹³⁹ OLIVIER CORTEN, *supra* note 17, AT 67.

¹⁴⁰ *Fisheries Jurisdiction*, *supra* note 5, at 454; *Corfu Channel*, *supra* note 4, at 109; *Aegean Sea Continental Shelf (Greece v. Tur.)*, Judgment, 1978 I.C.J. 3, 29 (Dec. 19).

¹⁴¹ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, 1996 I.C.J.

action, but only on whether the will of other States is being coerced.¹⁴² Although the use of ASAT missile only takes minutes, it involves a necessary direction in advance.¹⁴³

In casu, SSV was intended for Palver-2 in a moderate way.¹⁴⁴ However, Koligian's use of ASAT missile destroyed Palver-2, eliminating any possibilities for SSV¹⁴⁵ and further rendering the entire Palver system inoperable.¹⁴⁶ As a result, well-prepared in advance, Koligian compelled Argylia to refrain from the restoration and utilization of Palver-2. Thus, Koligian had hostile intent against Argylia by using ASAT missile.

2. Koligian cannot invoke self-defense to justify the use of force.

According to Article 51 of the *U.N. Charter*, the use of force under Article 2(4) of the *U.N. Charter* can be excluded by self-defense.¹⁴⁷ However, to invoke self-defense, a State must demonstrate that it has been the victim of an intentional armed attack¹⁴⁸ by another State.¹⁴⁹ In addition, members exercising self-defense must immediately report

226, 263 (July 8).

¹⁴² OLIVIER CORTEN, *supra* note 17, at 77.

¹⁴³ Lars Hostbeck, *Space Weapons, Concepts and their International Security Implications*, in *HANDBOOK OF SPACE: SECURITY POLICIES, APPLICATIONS AND PROGRAMS 12* (Kai-Uwe Schrogl et al. eds., 2015).

¹⁴⁴ *Compromis*, ¶13.

¹⁴⁵ *Compromis*, ¶14.

¹⁴⁶ *Compromis*, ¶15.

¹⁴⁷ JUDITH GARDAM, *NECESSITY, PROPORTIONALITY, AND THE USE OF FORCE BY STATES 6* (2004).

¹⁴⁸ *Oil Platforms (Iran v. U.S.)*, Judgment, 2003 I.C.J. 161, 189-190 (Nov. 6); YORAM DINSTEIN, *WAR, AGGRESSION AND SELF-DEFENSE 175* (2005); BRUNO SIMMA, *THE CHARTER OF THE UNITED NATIONS: A COMMENTARY 661-678* (1994).

¹⁴⁹ Villani, *The Security Council's Authorization of Enforcement Action by Regional Organizations*, YBNL 535, 552 (2022).

to the Security Council.¹⁵⁰

In casu, the direct-ascent ASAT missile was used against Palver-2,¹⁵¹ the satellite uncontrolled accidentally.¹⁵² As a result, any intent of Argyliam could not be carried out by Palver-2. Simultaneously, the act was not even reported to the Security Council.¹⁵³ Thus, Koligian did not face an armed attack and cannot invoke self-defense to justify the use of force.

B. The use of ASAT missile against Palver-2 violated relevant provisions of the *OST*.

Koligian's use of an ASAT missile violated Article VIII of the *OST* by interfering with Argyliam's jurisdiction and control over Palver-2. [1] Moreover, Koligian also violated Article IX of the *OST* in breach of the obligations of due regard principle, preventing harmful contamination, and international consultation. [2]

1. Koligian violated Article VIII of the *OST* by interfering with the jurisdiction and control of Palver-2.

The Applicant submits that Koligian violated Article VIII of the *OST* since Argyliam retains jurisdiction and control over Palver-2 [a] and Koligian infringed it by using ASAT missile. [b]

a. Argyliam retains jurisdiction and control over Palver-2.

Under Article VIII of the *OST*, the State of registry retains jurisdiction and control

¹⁵⁰ Article 51, *U.N. Charter*.

¹⁵¹ *Compromis*, ¶14.

¹⁵² *Compromis*, ¶12.

¹⁵³ *Compromis*, ¶14.

over the space object.¹⁵⁴ While the term “jurisdiction” refers to the right to regulate a space object, “control” is the ability to enforce jurisdiction.¹⁵⁵

“Retaining jurisdiction and control” includes the right to avoid external infringement.¹⁵⁶ Consequently, whether a space object is unfunctional or uncontrollable,¹⁵⁷ permanently or temporarily,¹⁵⁸ does not affect its jurisdiction and control.¹⁵⁹ *In casu*, the State of registry Argylia¹⁶⁰ retains jurisdiction and control over Palver-2, regardless of the loss of factual control.¹⁶¹

b. Koligian infringed the jurisdiction and control over Palver-2.

States are obligated not to interfere with the jurisdiction and control over space objects of another State.¹⁶² The prohibited interference includes the extinction of the

¹⁵⁴ Article VIII, *OST*.

¹⁵⁵ Michael Gerhard & K. Gungaphul-Brocard, *The Impact of National Space Legislation on Space Industry Contracts*, in *CONTRACTING FOR SPACE* 64 (L.J. Smith & I. Baumann eds. 2011).

¹⁵⁶ Bernhard Schmidt-Tedd & Stephen Mick, *supra* note 35.

¹⁵⁷ BENKÖ MARIETTA & SCHROGL KAI-UWE, *SPACE LAW: CURRENT PROBLEMS AND PERSPECTIVES FOR FUTURE REGULATION*, *ELEVEN, UTRECHT* 42 (2005).

¹⁵⁸ COPUOS, *Active Debris Removal - Report of the International Interdisciplinary Congress on Space Debris Remediation and On-Orbit Satellite Servicing* [hereinafter *Active Debris Removal*], at 33, U.N. Doc. A/AC.105/C.1/2012/CRP.16 (Jan. 27, 2012); H.A. Baker, *Liability for Damage Caused in Outer Space by Space Refuse*, 13 *AIR & SPACE L.* 183, 191 (1988); Hackett, *supra* note 89, at 189-199; K.F. SCHWETJE, *LIABILITY AND SPACE DEBRIS*, in *ENVIRONMENTAL ASPECTS OF ACTIVITIES IN OUTER SPACE: STATE OF THE LAW AND MEASURES OF PROTECTION* 36-40 (1990).

¹⁵⁹ FRANCIS LYALL & PAUL B. LARSEN, *supra* note 74, at 156; *Active Debris Removal*, *supra* note 158.

¹⁶⁰ *Compromis*, ¶5.

¹⁶¹ *Compromis*, ¶12.

¹⁶² MANFRED LACHS, *supra* note 34, at 66.

right to modify a space object¹⁶³ and any frustration of technical arrangements necessary for the fulfillment of its mission.¹⁶⁴ Specifically, States are not at liberty to remove space debris without the consent of the State of registry.¹⁶⁵

In casu, the mission of Palver-2 was to operate the telecommunications system.¹⁶⁶ The re-boost of Palver-2 by SSV served as a necessary technical arrangement for the fulfillment of this mission.¹⁶⁷ Nonetheless, ASAT missile completely destroyed Palver-2,¹⁶⁸ depriving the possibility to adopt technical arrangements aforementioned.¹⁶⁹ Thus, Koligian infringed the jurisdiction and control over Palver-2.

2. The use of ASAT missile violated Article IX of the *OST*.

Koligian violated Article IX of the *OST* by failing to comply with the due regard principle [a] and breaching the obligation to prevent harmful contamination. [b] Moreover, Koligian breached the obligation to undertake international consultations. [c]

a. Koligian failed to comply with the “due regard” principle.

When conducting space activities, States shall pay due regard to the corresponding interests of all other States.¹⁷⁰ According to the P.C.A., the extent of due regard relates

¹⁶³ Gabriel Lafferranderie, *supra* note 36, at 230.

¹⁶⁴ MANFRED LACHS, *supra* note 34, at 66.

¹⁶⁵ Jinyuan Su, *Control over activities harmful to the environment*, in ROUTLEDGE HANDBOOK OF SPACE LAW 79 (Ram S. Jakhu & Paul Stephen Dempsey eds., 2017); Brian Weeden, *Overview of the Legal and Policy Challenges of Orbital Debris Removal* 1 SPACE POLICY 27, 41 (2011);

¹⁶⁶ *Compromis*, ¶5.

¹⁶⁷ *Compromis*, ¶13.

¹⁶⁸ *Compromis*, ¶14.

¹⁶⁹ *Compromis*, ¶13.

¹⁷⁰ Article IX, *OST*.

to the anticipated impairment.¹⁷¹ It requires States to conform to the no-harm principle [i] and to reduce the creation of space debris. [ii]

i. Koligian failed to conform to the no-harm principle.

The no-harm principle indicates that State in observation of other States' interests shall refrain from causing harm or damage to its property.¹⁷² Further recognized by this court,¹⁷³ it requires States to standardize their actions so as not to injure the rights of other States.¹⁷⁴

In casu, in the absence of international cooperation,¹⁷⁵ the destruction of Palver-2 by Koligian's ASAT missile seriously impaired the national defense of Argyliam,¹⁷⁶ which would take years to restore.¹⁷⁷ Thus, Koligian failed to conform to the no-harm principle by posing a severe threat to Argyliam's national security.

ii. Koligian failed to reduce the creation of space debris.

Given its destructive nature,¹⁷⁸ the direct-ascent ASAT missile is capable of

¹⁷¹ Chagos Marine Protected Area (Mauritius v. U.K.), 31 R.I.A.A. 358, 571 (Perm. Ct. Arb. 2015).

¹⁷² Trail Smelter arbitration (U.S. v. Can.), 3 R.I.A.A. 1905, 1932 (Perm. Ct. Arb. 1941).

¹⁷³ *Corfu Channel*, *supra* note 4, at 22; Nuclear Tests (Aus. v. Fr.), Dissenting Opinion, 1974 I.C.J. 372, 389 (Dec. 20).

¹⁷⁴ L. VIHKARI, THE ENVIRONMENTAL ELEMENT IN SPACE LAW: ASSESSING THE PRESENT AND CHARTING THE FUTURE 152 (2008).

¹⁷⁵ *Compromis*, ¶13.

¹⁷⁶ *Compromis*, ¶5.

¹⁷⁷ *Compromis*, ¶15.

¹⁷⁸ *Supra* Argument III(A)(1)(a); U.N.G.A., *Destructive direct-ascent anti-satellite missile testing*, at 2, U.N. Doc. A/C.1/77/L.62 (Oct. 13, 2022).

destroying satellites into numerous space debris.¹⁷⁹ The U.N.G.A. Resolution 60/99,¹⁸⁰ as well as UNCOPUOS *Space Debris Mitigation Guidelines*,¹⁸¹ reflected that the quantitative assessment of debris created¹⁸² by an independent party is required.¹⁸³ The intentional destruction shall be prevented according to the mitigation guideline of IADC,¹⁸⁴ UNCOPUOS and also the TCBMs requirements.¹⁸⁵

In casu, destroyed by ASAT missile, Palver-2 fragmented into thousands of pieces,¹⁸⁶ and even small debris could cause catastrophic damage.¹⁸⁷ Koligian failed to assess the space debris that endangered the international community.

Therefore, Koligian breached the due regard principle under Article IX of the *OST*.

b. Koligian breached the obligation to avoid harmful contamination.

¹⁷⁹ U.N. Secretary-General, *Reducing space threats through norms, rules and principles of responsible behaviors: Rep. of the Secretary-General*, at 47, U.N. Doc. A/76/77 (July 13, 2021) [hereinafter *Principles of Responsible Behaviors*].

¹⁸⁰ G.A. Res. 60/99, at 27, *International Cooperation in the Peaceful uses of Outer Space*, (Jan. 6, 2006).

¹⁸¹ *Debris Mitigation Guidelines*, *supra* note 72.

¹⁸² David Wright, *Space Debris*, 60 *PHYSICS TODAY* 35, 39 (2007); Brian Weeden, *2007 Chinese Anti-Satellite Test Fact Sheet* (Nov. 23, 2010), https://swfound.org/media/9550/chinese_asat_fact_sheetupdated_2012.pdf.

¹⁸³ *Active Debris Removal*, *supra* note 158, at 42.

¹⁸⁴ Inter-Agency Space Debris Coordination Committee, *IADC Space Debris Mitigation Guidelines*, ¶5.2, IADC-02-01 Revision 2, (Mar. 13, 2020).

¹⁸⁵ U.N. Secretary-General, *Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities*, at 17, U.N. Doc. A/68/189 (July 29, 2013).

¹⁸⁶ *Compromis*, ¶14.

¹⁸⁷ M. T. SAVAGE, *THE MILLENNIAL PROJECT: COLONIZING THE GALAXY IN EIGHT EASY STEPS* 149 (1992); W. S. WONG & J. FERGUSSON, *MILITARY SPACE POWER: A GUIDE TO THE ISSUES* 69 (2010); S. TKATCHOVA, *SPACE-BASED TECHNOLOGIES AND COMMERCIALIZED DEVELOPMENT: ECONOMIC IMPLICATIONS AND BENEFITS* 213 (2011).

Under Article IX of the *OST*, harmful contamination shall be avoided in space exploration by appropriate measures.¹⁸⁸ The appropriateness requires States to conform to the “precautionary principle”,¹⁸⁹ which is part of customary international law.¹⁹⁰

In outer space, the precautionary principle could be further specified by the *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities (APTHHA)*.¹⁹¹ Space debris is characterized as one particular transboundary harm¹⁹² to the space environment.¹⁹³

In casu, considering the debris generated and the harm it resulted in near LEO orbit reveals the transboundary harm by the unilateral missile attack.¹⁹⁴ Thus, Koligian breached the obligation to avoid harmful contamination.

c. Koligian was contrary to the obligation of undertaking international

¹⁸⁸ Article IX, *OST*.

¹⁸⁹ Article III, *OST*; Olivier Ribbelink, *Article III*, in 1 COLOGNE COMMENTARY ON SPACE LAW 67 (Stephan Hobe *et al.* eds. 2009); Paul B. Larsen, *Application of the Precautionary Principle to the Moon*, 71 J. AIR L. & COM. 295, 301 (2006).

¹⁹⁰ UNCED, *Rio Declaration on Environment and Development*, Principle 15, U.N. Doc. A/CONF.151/26 (June 14, 1992); Second Int’l Conf. on the Protection of the North Sea, Ministerial Declaration, Principle VII (London) (Nov. 25, 1987); Owen McIntyre & Thomas Mosedale, *Precautionary Principle as a Norm of Customary International Law*, 9(2) J. ENV’T L. 221, 223 (1997).

¹⁹¹ G.A. Res. 62/68, *Draft Articles on Prevention of Transboundary Harm from Hazardous Activities* [hereinafter *APTHHA*] (Jan. 8, 2008); Olivier Ribbelink, *supra* note 187; MALCOLM N. SHAW, *supra* note 34, at 72.

¹⁹² Andrea Bianchi, *Environmental Harm Resulting from the Use of Nuclear Power Sources in Outer Space: Some Remarks on State Responsibility and Liability*, in INTERNATIONAL RESPONSIBILITY FOR ENVIRONMENTAL HARM 231, 262 (Francesco Francioni *et al.* eds., 1991).

¹⁹³ *Active Debris Removal*, *supra* note 158, at 7; James P. Lampertius, *The Need for an Effective Liability Regime for Damage Caused by Debris in Outer Space*, 13 MICH. J. INT’L L. 447, 448 (1992).

¹⁹⁴ *Compromis*, ¶14.

consultations.

Koligian was obligated to consult because it had reason to believe the use of ASAT missile would cause potentially harmful interference. [i] Further, Koligian failed to fulfill its obligation to consult. [ii]

i. Koligian had reason to believe the activity would cause potentially harmful interference.

“Harmful interference” includes interference with the freedom of physical movement or operations of space objects.¹⁹⁵ Moreover, the enormous power of direct-ascent ASAT missiles is widely recognized,¹⁹⁶ with potential interference with the target and also other space objects by the debris resulted.¹⁹⁷

In casu, ASAT missile completely destroyed Palver-2,¹⁹⁸ which obviously deprived the freedom of physical movement or operations of Palver-2. Koligian should have sufficient knowledge of potentially harmful interference with Palver-2 ahead of the use of ASAT missile.

ii. Koligian failed to fulfill its obligation of consultation.

The *OST* does not specify the procedure for appropriate international

¹⁹⁵ Michael C. Mineiro, *FY-1C and USA-193 ASAT Intercepts: An Assessment of Legal Obligations under Article IX of the Outer Space Treaty*, 34 J. SPACE L. 321, 337 (2008).

¹⁹⁶ *Principles of Responsible Behaviors*, *supra* note 179; ESA, *ESA's Annual Space Environment Report* (Apr. 22, 2022), https://www.sdo.esoc.esa.int/environment_report/Space_Environment_Report_latest.pdf.

¹⁹⁷ MARC G. CARNS, *ORBITAL DEBRIS PREVENTION AND MITIGATION EFFORTS AMONG MAJOR SPACE ACTORS* 57 (2023); Frans G. von der Dunk, *Target Practising in a Global Commons: The Chinese ASAT Test and Outer Space Law*, 22 Kor. J. Air & Space L. & Pol'y 55,63 (2007).

¹⁹⁸ *Compromis*, ¶14.

consultations.¹⁹⁹ As a result, the procedure of consultation depends on the planned activity.²⁰⁰ In *Pulp Mills case*, this Court identified a requirement of notification as part of consultation.²⁰¹ The minimum standard of notification requires information of the potentially harmful interference for taking appropriate action.²⁰²

In casu, Argyliam proposed SSV as an immediate measure.²⁰³ Nevertheless, Koligian used ASAT missile unilaterally²⁰⁴ without any notification.²⁰⁵ Thus, Koligian failed to fulfill the obligation of international consultation.

C. The wrongfulness of Koligian’s violation of international obligations cannot be precluded by invoking necessity.

Koligian could not invoke necessity because the use of ASAT missile was neither to safeguard an essential interest against a grave and imminent peril [1] nor the only way, [2] and it seriously harmed Argyliam’s essential interest. [3]

1. Koligian’s essential interest did not face a grave and imminent peril.

As submitted before,²⁰⁶ the peril has to be objectively established, which means the existence of extremely serious present danger to the threatened essential interest.²⁰⁷

¹⁹⁹ Ivan Vlastic, *The Space Treaty: A Preliminary Evaluation*, 55 CAL. L. REV. 507, 517 (1967).

²⁰⁰ Brandon Hart, *Legal Implications Surrounding Recent Interception of Spy Satellite*, JOINT CTR. OPERATIONAL ANALYSIS J. 1, 34 (2008).

²⁰¹ *Pulp Mills on the River Uruguay [Pulp Mills]* (Arg. v. Uru.), Judgment, 2010 I.C.J. 8, 51 (Apr. 20).

²⁰² Article 3(2), *Espoo Convention*; Mineiro, *supra* note 195, at 339.

²⁰³ *Compromis*, ¶13.

²⁰⁴ *Compromis*, ¶14.

²⁰⁵ *Compromis*, ¶14.

²⁰⁶ *Supra* Argument I(C)(1).

²⁰⁷ Int’l Law Comm’n R. Ago, *Addendum to the Eight Report on State Responsibility*,

In practice, an individual risk of less than 20% is considered unlikely.²⁰⁸

In casu, the chance for the laser's spontaneous activation was less than 3%.²⁰⁹

Even if activated, Palver-2 would be almost impossible to cause any damage in lack of adjustable emitting direction. Further, Palver-2 was expected to enter orbit in three days,²¹⁰ allowing the preparation of SSV within 24 hours.²¹¹ Thus, the realization of peril was not objectively established.

Therefore, Koligian's essential interest did not face a grave and imminent peril.

2. It was not the only way for Koligian to safeguard its essential interest.

As aforementioned,²¹² the "only way" available to safeguard that interest is excluded if other lawful means are available. The "way" is not limited to unilateral action but includes conduct through international cooperation.²¹³

A direct-ascent ASAT missile could reach the target in a few minutes.²¹⁴ Meanwhile, according to NASA,²¹⁵ SSV is proficient in lifting satellites for safe

at 19, U.N. Doc. A/CN.4/318/Add. (Feb. 5, 1979).

²⁰⁸ NASA: *Guidelines for Risk Management* (Oct. 16, 2017), <https://confluence.ivv.nasa.gov:8445/display/IMS>.

²⁰⁹ *Compromis*, ¶12.

²¹⁰ *Compromis*, ¶12.

²¹¹ *Compromis*, ¶13.

²¹² *Supra* Argument I(C)(2).

²¹³ Int'l Law Comm'n, Rep. on the Work of Its 53rd Sess., at 173, U.N. Doc. A/56/10 (2001)

²¹⁴ K. U. Hörl & J. Hermida, *Change of Ownership, Change of Registry? Which Objects to Register; What Data to Furnish, When and Until When*, 46 PROC. ON INT'L INST. SPACE L. 452, 454 (2003).

²¹⁵ NASA, *Cygnus-completes-station-mission-after-four-months* (June 28 2022), <https://blogs.nasa.gov/spacestation/2022/06/28/cygnus-completes-station-mission-after-four-months/>; NASA, *On-Orbit Servicing, Assembly, and Manufacturing 2*

modification.²¹⁶

In casu, the SSV already successfully passed the ground-based experiment, ready for the launching process.²¹⁷ Koligian, as a space-faring State, could cooperate to promote the SSV measure.²¹⁸ In any event, Koligian could still use ASAT missile as a last resort, with the consent of Argylia. Therefore, the use of ASAT missile to prematurely destroy Palver-2 was not the only way presented.

3. The essential interest of Argylia was seriously harmed.

As demonstrated above,²¹⁹ national security is a State's essential interest. Space-based services for national defense are essential to national security.²²⁰ Further, the *Principles of Responsible Behaviors* characterized that actions would undermine national security by interfering with space-based services.²²¹

In casu, the re-boost of Palver-2 and the restoration of the telecommunication system via SSV²²² were expected to be probable.²²³ ASAT missile destroyed Palver-2

(OSAM-2) (June 24, 2022), https://www.nasa.gov/mission_pages/tadm/osam-2.html; NASA, *Northrop Grumman makes history, Mission Extension Vehicle docks to target satellite* (Feb. 26, 2020), <https://www.nasaspaceflight.com/2020/02/northrop-grumman-history-mission-extension-vehicle-docks-satellite/>.

²¹⁶ Henry R. Hertzfeld, *In-Space Maneuvering, Servicing, and Resource Use: The Commercial Need for Legal Assurances*, 57 PROC. INT'L INST. SPACE L. 137, 137 (2014).

²¹⁷ *Compromis*, ¶13.

²¹⁸ *Compromis*, ¶4.

²¹⁹ *Supra* Argument I(C)(1).

²²⁰ *Principles of Responsible Behaviors*, *supra* note 179, at 43.

²²¹ *Principles of Responsible Behaviors*, *supra* note 179.

²²² *Compromis*, ¶13.

²²³ Danielle Miller & Elsbeth Magilton, *On-Orbit Satellite Servicing Standards Are a Necessity for the Private Space Industry*, 31 AIR & SPACE L. 4, 4 (2018); JAXA, *HTV6 Reentry to Earth's Atmosphere: JAXA's President, Naoki Okumura's Address H-II*

completely²²⁴ and erased all possibilities of restoration.²²⁵ Since the Palvers system contributed greatly to the national security of Argyliam,²²⁶ Argyliam's essential interest was seriously harmed and Koligian cannot invoke the circumstance of necessity.

In conclusion, the use of ASAT missile by Koligian constitutes a violation of international law.

IV. KOLIGIAN IS LIABLE UNDER INTERNATIONAL LAW FOR THE DESTRUCTION OF PALVER-2.

The Applicant submits that Koligian is liable for the destruction of Palver-2 under the *LIAB*, [A] Article VII of the *OST*, [B] and general international law. [C]

A. Koligian is liable for the destruction of Palver-2 under Article III of the *LIAB*.

The Applicant submits that Koligian is liable since the following elements²²⁷ are satisfied: ASAT missile falls within the scope of “space object” under the *LIAB*; [1] Koligian was at fault; [2] the damage was caused by the use of ASAT missile. [3]

1. ASAT missile falls within the meaning of “space object”.

Under the *LIAB*, there is no clear definition of the term “space object”.²²⁸ In light of its context and purpose,²²⁹ “space object” refers to any man-made object attempted

Transfer Vehicle KOUNOTORI6 Mission Completion (Feb. 6, 2017), https://global.jaxa.jp/press/2017/02/20170206_kounotori6.html.

²²⁴ *Compromis*, ¶14.

²²⁵ *Compromis*, ¶15.

²²⁶ *Compromis*, ¶2.

²²⁷ *Supra* Argument, II(A).

²²⁸ Article I, *LIAB*.

²²⁹ Article 31, *VCLT*; BIN CHENG, *supra* note 34, at 499.

or physically brought into outer space.²³⁰ This definition is also appreciated by State practices.²³¹ Since ASAT missile was a man-made object physically brought into space,²³² it falls within the meaning of “space object”.²³³

2. Koligian was at fault.

As submitted above,²³⁴ fault arises in two forms: objective fault refers to the breach an international obligation; subjective fault denotes the intent or negligence to cause damage. The direct-ascent ASAT missile is to destroy a satellite completely.²³⁵ The set of ASAT missiles was well-prepared with hostility, and the deliberate action with intent would establish fault.²³⁶

In casu, Koligian violated the abovementioned international obligations,²³⁷ which reveals the objective fault. Besides, given the destructive capacity of ASAT missile, Koligian directed it against Palver-2 and successfully destroyed the satellite,²³⁸ which

²³⁰ Bin Cheng, *supra* note 79, at 300; VLADIMIR KOPAL, PROCEEDINGS OF THE 37th ON THE LAW OF OUTER SPACE 99 (1994); Kazuhiro Nakatani, *Taepodong Missile Incident and Emerging Issues of Interpretation and Application of Space Treaties*, 44 PROC. ON L. OUTER SPACE 144, 144 (2001); U.S. Sen., *Report from the Committee on Foreign Relations on the Convention on International Liability or Damage Caused by Space Objects*, 92 Cong., 2nd Sess., Exec. Rep. No. 92-38,7 (1972).

²³¹ National Aeronautics and Space Act, Section 20103, (2010) (U.S.); Law of the Russian Federation “About Space Activities, Article 17, (1993) (Russ.); Act on Space Activities, Section 4, (2018) (Fin.); Out Space Act, Article 4, (2016) (Den.).

²³² *Compromis*, ¶5.

²³³ Frans G. von der Dunk, *supra* note 197, at 66.

²³⁴ *Supra* Argument II(A)(1).

²³⁵ *Principles of Responsible Behaviors*, *supra* note 179, at 6.

²³⁶ Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, 261 (July 8).

²³⁷ *Supra* Argument III.

²³⁸ *Compromis*, ¶14.

indicates the intent of subjective fault.

Thus, Koligian was at fault.

3. The damage to Palver-2 was caused by ASAT missile.

Causality demands a “sufficiently direct and certain” causal link established between the use of space object and damage.²³⁹ The causal link can be established if the damage is a direct consequence of a space object,²⁴⁰ focusing on State’s conduct which enables the harmful outcome to materialize.²⁴¹

In casu, Koligian launched ASAT missile towards Palver-2.²⁴² In light of its destructive capacity,²⁴³ the use of ASAT missile enabled the harmful outcome to materialize against Palver-2.²⁴⁴ Thus, the damage was caused by ASAT missile.

B. Koligian is liable for the destruction of Palver-2 under Article VII of the OST by using ASAT missile.

Under Article VII of the *OST*, launching States are liable for damage caused by the launched object to another State.²⁴⁵ The liability is absolute and only concerns damage, causality and the launched object.²⁴⁶ *In casu*, Koligian launched ASAT

²³⁹ *Supra* Argument II(A)(2).

²⁴⁰ BIN CHENG, *GENERAL PRINCIPLES OF LAW AS APPLIED BY INTERNATIONAL COURTS AND TRIBUNALS* 242 (1953).

²⁴¹ ALEXANDER ORAKHELASHVILI, *CAUSATION IN INTERNATIONAL LAW* 172 (2022).

²⁴² *Compromis*, ¶14.

²⁴³ David A. Koplow, *supra* note 71, at 1201.

²⁴⁴ *Compromis*, ¶14.

²⁴⁵ Article VII, *OST*.

²⁴⁶ Lesley J. Smith & Armel Kerrest, *supra* note 102, at 163.

missile.²⁴⁷ As demonstrated above, the damage and causality are established.²⁴⁸

Therefore, Koligian is liable under Article VII of the *OST*.

C. Koligian is liable for the destruction of Palver-2 under general international law.

Under general international law,²⁴⁹ liability is based on damage caused by the internationally wrongful act²⁵⁰ which requires that the act is attributable to the State and constitutes a breach of international obligation of the State.²⁵¹

In casu, the use of ASAT missile is attributed to Koligian,²⁵² and in violation of Article 2(4) of the *U.N. Charter* as well as Articles VIII & IX of the *OST*, it constitutes internationally wrongful acts.²⁵³ The causality between the destruction of Palver-2 and Koligian's internationally wrongful act was submitted before.²⁵⁴ Therefore, Koligian is liable under general international law.

In conclusion, Koligian is liable for the destruction of Palver-2.

²⁴⁷ *Compromis*, ¶14.

²⁴⁸ *Supra* Argument IV(A).

²⁴⁹ Article 31, *ARSIWA*; *Factory at Chorzów*, *supra* note 104.

²⁵⁰ *United States Diplomatic and Consular Staff in Tehran (U.S. v. Iran)*, Judgement, 1980 I.C.J. 3, 42 (May 24).

²⁵¹ Article 1, *ARSIWA*.

²⁵² *Compromis*, ¶14.

²⁵³ *Supra* Argument III.

²⁵⁴ *Supra* Argument IV(A).

SUBMISSIONS TO THE COURT

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

1. The use of Palver-3 was in conformity with international law.
2. Argyliam is not liable for the destruction of Iriord-8.
3. The use by Koligian of ASAT missile against Palver-2 constitutes a violation of international law.
4. Koligian is liable for the destruction of Palver-2.