MANFRED LACHS SPACE LAW MOOT COURT COMPETITION 2005

Team No. 612

IN THE INTERNATIONAL COURT OF JUSTICE
AT THE
PEACE PALACE, THE HAGUE

Case concerning International Liability

Deltastan
v.
Gammaland

ON SUBMISSION TO THE INTERNATIONAL COURT OF JUSTICE

MEMORIAL FOR THE APPLICANT

DELTASTAN

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QUESTIONS PRESENTED

1. Whether the Respondent has violated obligations under international law, and is liable for the damage caused to the Space Elevator and its component parts, including Drachen Station;

2. Whether the Respondent has violated obligations under international law, and is liable for the damage caused to the Applicant's fisheries;

3. Whether the Applicant is liable under international law for damage to the Respondent's satellites;

4. Whether the Applicant is liable under international law for the environmental damage sustained by the Respondent and thus for any payment of compensation for the clean up costs; and

5. Whether the Respondent is liable under international law for the return of Drachen Station.

STATEMENT OF FACTS

BACKGROUND

The Space Elevator: A New Era in Space Transportation

The nation of Deltastan has invested resources, time and expertise into the development of a new and efficient form of transportation of payloads and personnel into outer space. This "Space Elevator" comprised three components: a long carbon nanotube ribbon ("Super String") connecting Drachen Station ("Drachen") – a space station orbiting at an altitude slightly above the geostationary earth orbit – to a mobile sea platform ("Sea Anchor") on the Earth's surface. Sea Anchor is located 10,000 kilometres west of Deltastan in the Pacific Ocean, and is surrounded by a 200 kilometre safe zone. Vessels and aircraft of the nation of Gammaland regularly intruded into this zone.

The Space Elevator's purpose was to provide commercial transportation services. Satellites were to be transported into low, medium and geostationary earth orbits by crawlers ("Golden Orbs"), which moved along the Super String and were powered by laser systems installed on Drachen and Sea Anchor.

The project was funded and developed by two Deltastan government organisations, the National Agency of Space ("NAS") and the Ministry of Defence ("MOD"). The commercial operations were run by the Space Elevator Corporation ("SEC"), a government-chartered company.

Construction of the Space Elevator

The impressive technical achievement of the Elevator's construction began with the launching of the duly registered Alpha Station ("Alpha") into geostationary orbit. A drogue then descended from Alpha reeling out a length of Super String, the end of which was secured

to Sea Anchor when it reached the Earth's surface. Additional lengths of Super String were then added by a crawler to reinforce its strength and thus provide additional safety.

Concurrently, Drachen, a human-rated station with return to Earth capabilities intended to replace Alpha, was constructed by transporting its components piece by piece up the Super String. Upon Drachen's completion, Alpha was disconnected from the Super String and sent on a course towards the Sun for disposal.

Drachen was then crewed by civilian employees of the SEC, and its laser power system upgraded to double as a defence system capable of protecting the Space Elevator.

THE DISPUTE

Inspector spies on the Space Elevator

Inspector was a secret, unregistered Gammaland satellite which was designed specifically to spy on payloads being transported by the Space Elevator and to covertly relay this information to another satellite, GammaSat II. Soon after Inspector's deployment, Deltastan detected Inspector in a geostationary orbital position near the Super String. Deltastan considered Inspector's proximity to be a safety concern and a possible threat both to the Space Elevator and to its personnel.

A series of operational accidents on the Elevator then caused Deltastan to suspend operations and commission a safety investigation. During the investigation, Deltastan developed a payload designed to gather information about Inspector.

Press reports at the time falsely alleged that the next payload to be sent up was to deploy a "black nanosatellite program" run by Deltastan. Based on this "intelligence", Gammaland moved Inspector to within several kilometres of the Super String and waited there to spy on this payload as it passed through the geostationary arc.

Upon resumption of operations, a crawler failed on the Super String at the point closest to Inspector. A repair module was dispatched to rescue it. During this incident, data was collected about Inspector. Deltastan used this data to confront Gammaland about the proximity of Inspector and requested that Gammaland move Inspector at least 1,000 kilometres away from the Space Elevator for safety reasons. Heated negotiations followed, with Gammaland eventually complying and repositioning Inspector.

Inspector damages the Space Elevator

As an investigative commission was to find later, Inspector's newly invented propulsion system left behind a stream of highly reactive molecules as exhaust. This stream collided with the Super String as a result of Inspector's chosen trajectory, causing massive corrosion of the component nanotubes and adhesive. Subsequent orbits of the propellant stream caused further damage to the Super String.

Due to a storm in the Maric Ocean, Deltastan decided to reposition the Elevator and place Drachen on precautionary defensive alert. During the manoeuvre, the Super String was catastrophically severed. Drachen interpreted this event as an attack on the Elevator, executing pre-programmed firings upon spacecraft it had identified as potential foes and disabling Inspector, GammaSat II and four other Gammaland satellites.

Drachen Station attempts to return safely to Earth

Drachen then began emergency procedures but, unable to execute its return sequence, was forced to land in Gammaland. Drachen's crew dismantled the laser defence system during the descent. Drachen was immediately seized by Gammaland's armed forces, and then systematically disassembled and analysed. Drachen's crew was arrested and incarcerated.

Deltastan then requested that all Gammaland aircraft in the area of Sea Anchor land on territory allied to Deltastan.

Twenty-three thousand miles of Super String then re-entered the atmosphere, landing in Gammaland, and Deltastan's territorial waters.

After further protracted negotiations and demands, an Independent Commission unanimously determined that the most likely cause of the Super String's failure was its corrosion by the propulsion exhaust. Subsequently, Drachen's crew were returned to Deltastan. Gammaland's aircraft and their crews were returned by Deltastan. However, Drachen, despite repeated requests, has not been returned to Deltastan.

Both Deltastan and Gammaland accept the jurisdiction of the International Court of Justice and have agreed to refer the outstanding issues in this dispute to this Court.

SUMMARY OF ARGUMENTS

This case concerns issues surrounding the use of force and liability to make reparations for damage to space objects and the environment.

Gammaland is liable for the damage Inspector caused to the Super String. Gammaland ought to have known that Inspector's exhaust could have harmed other space objects. Gammaland's failure to conduct consultations, in violation of the Outer Space Treaty, also resulted in damage to the Super String. Further, Gammaland damaged Drachen while in custody of Drachen and while ownership of it remained with Deltastan.

Gammaland's space activities are also inherently ultrahazardous and therefore attract strict liability for the damage such activities have caused.

Gammaland is liable for the damage caused to Deltastan's fisheries, a foreseeable consequence of Gammaland's corrosion of the Super String. Gammaland has breached its obligation not to cause transboundary harm under international environmental law and accordingly Gammaland must make full reparation for the damage it has caused.

Further, as Inspector is a space object under the Liability Convention, Gammaland is absolutely liable for the damage caused to the surface of the Earth. Exoneration from liability for damage to Deltastan's fisheries is unavailable to Gammaland due to its grossly negligent conduct.

Deltastan denies any liability arising from the disabling of Gammaland's satellites by Drachen. Such acts were necessary to safeguard the lives of Drachen's crew and were a lawful exercise of self defence.

Furthermore, the Liability Convention does not apply to damage caused by the laser defence system. This is because the laser defence system is not a "space object" under the Liability Convention. The Liability Convention was not intended to regulate damage caused by military space objects which impose non-reciprocal risks on other space objects.

Even if the Liability Convention is found to apply to this damage, Deltastan is not liable as it is not at fault because it disabled Gammaland's satellites in self-defence. Any liability flowing from article VII of the Outer Space Treaty is likewise precluded.

Deltastan denies all breaches of international law relating to Gammaland's environmental damage. Deltastan exercised due diligence in its space activities. In any case, any unlawfulness of its actions is precluded by *force majeure*. Further, Gammaland's gross and exclusive negligence exonerates Deltastan from any strict liability incurred.

Lastly, Gammaland is not entitled to continue its detention of Drachen in defiance of the Rescue Agreement and the Outer Space Treaty. The detention is not a lawful countermeasure because Deltastan's acts were not wrongful. Additionally, the fact that the dispute is now before this Court renders any countermeasure unjustifiable.

ARGUMENTS

Section 1 – Gammaland is liable to compensate Deltastan for damage it caused to the Space Elevator and its component parts

1.1 GAMMALAND IS LIABLE FOR DAMAGE TO THE SPACE ELEVATOR AND ITS COMPONENT PARTS UNDER INTERNATIONAL LAW

(a) Gammaland has violated international law by damaging the Super String with Inspector's exhaust

It is a principle of international law that States must not knowingly use their property in such a way that the property of other States is damaged. This includes situations where States ought to have known that damage would occur.[1] This is encapsulated in the Latin maxim *sic utere tuo ut alienum non laedas*.[2] It has also been codified in principle 21 of the Stockholm Declaration.[3] Although this obligation is typically employed in the context of environmental damage, it is no less applicable where damage of any kind occurs.[4]

In this case, Inspector, under Gammaland's quasi-territorial jurisdiction,[5] has caused damage to Deltastan's property. Gammaland ought to have known that the exhaust from Inspector's propulsion system, being a new system, could have harmed other States' space objects and is therefore liable for using their property in such a way that Deltastan's property, namely, the Super String, has been damaged.

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1 Corfu Channel (U.K. v. Alb.) (Merits), 1949 I.C.J. 4, 23 (Apr. 9); Trail Smelter Arbitration (U.S. v. Can.), 3 R.I.A.A. 1905, 1963 (1938).

2 Armin Rosencranz, *The Origin and Emergence of International Environmental Norms*, 26 HASTINGS INT'L & COMP. L. REV. 309, 309 (2003).

3 Stockholm Declaration on the Human Environment: Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF.48/14/Rev/1 (1972), reprinted in 11 I.L.M. 1416 [hereinafter Stockholm Declaration].

4 Bin Cheng, *International Responsibility and Liability for Launch Activities*, 20(6) AIR & SPACE L. 297, 305–06 (1995); MALCOLM SHAW, INTERNATIONAL LAW 766 (5th ed. 2003) (principle applies to damage to property).

5 BIN CHENG, STUDIES IN INTERNATIONAL SPACE LAW 441 (1998).

(b) Gammaland's disassembly of Drachen was an internationally unlawful act

Article VIII of the Outer Space Treaty states that ownership of objects launched into outer space is not affected by their return to Earth.[6] Therefore, despite the emergency landing within Gammaland's territorial jurisdiction, ownership of Drachen remains with Deltastan.[7] Mere loss of control over a space object does not render it derelict and therefore subject to appropriation by Gammaland.[8]

Gammaland wilfully used its property to disassemble and damage Drachen,[9] while Drachen was still under the ownership of Deltastan. Gammaland knowingly intended to cause harm to Drachen's property and has therefore breached international law.

(c) Gammaland has violated article IX of the Outer Space Treaty by failing to consult with Deltastan

Article IX of the OST states that if a State has reason to believe an activity it plans in outer space "would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space", then it should undertake international consultations before engaging in such activity.

Inspector's fuel exhaust was part of a new propulsion system. Given that Inspector would be manoeuvring around a highly populated and strategically important region of space, Gammaland should have had reason to believe that the new propulsion system's exhaust would potentially cause harmful interference with other States' space activities. Gammaland's

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6 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, Jan. 27, 1967, art. VIII, 610 U.N.T.S. 205 (entered into force Oct. 10, 1967) [hereinafter OST].

7 WILFRED JENKS, SPACE LAW 240 (1965).

8 Bryan Schwartz & Mark Berlin, *After the Fall: An Analysis of Canadian Legal Claims for Damage Caused by Cosmos 954*, 27 MCGILL L.J. 676, 704 (1982) ("One of the policies behind the emergency right of entry principle is that States jealous of their sovereignty should not needlessly destroy persons or property when emergencies force them to intrude on to their territory").

9 *Compromis* para. 22.

complete failure to enter into any consultations with Deltastan concerning Inspector's possible impacts on the Space Elevator clearly violates article IX's consultation provisions and the obligation that States shall conduct space activities in accordance with the principle of international "co-operation and mutual assistance".[10]

(d) Gammaland's breaches caused damage to the Space Elevator and therefore entail international responsibility and liability

It is well established in decisions of this Court[11] and the Permanent Court of International Justice[12] that every internationally wrongful act of a State entails its international responsibility if that act is attributable to the State. This principle has also been codified by the International Law Commission (ILC) in article 2 of its State Responsibility Articles.[13]

Although the work of the ILC is not binding in itself, most highly qualified publicists,[14] this Court[15] and States have accepted that certain principles, such as article 2, contained within the ILC's State Responsibility Articles are reflective of customary international law.[16] The ILC may also itself be regarded as a most highly qualified publicist.[17]

The involvement of Gammaland's Ministry of Defence, an organ of Gammaland's government, in controlling Inspector makes such activities directly attributable to

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10 OST, *supra* note 6, art. IX; He Qizhi, *The Development of Space Law as a Result of Technology Changes*, 14 ANNALS AIR & SPACE L. 255, 262–63 (1989).

11 Corfu Channel (Merits), *supra* note 1, at 23; Gabčíkovo-Nagymaros Project (Hung. v. Slovk.), 1997 I.C.J. 7, 34 (Sept. 25).

12 Chorzów Factory (F.R.G. v. Pol.) (Merits), 1928 P.C.I.J. (ser. A) No. 17, at 29 (Sept. 13); Phosphates in Morocco (Ita. v. Fra.) (Preliminary Objections), 1938 P.C.I.J. (ser. A/B) No. 74, at 23, 28.

13 International Law Commission, Draft Articles on Responsibility of States for Internationally Wrongful Acts, U.N. GAOR, 56th Sess., art. 1, U.N. Doc. A/RES/56/83 (2002) [hereinafter State Responsibility Articles].

14 DAVID HARRIS, CASES AND MATERIALS ON INTERNATIONAL LAW at a (5th ed. 1998).

15 Gabčíkovo-Nagymaros Project, *supra* note 11, at 34.

16 STATUTE OF THE INTERNATIONAL COURT OF JUSTICE, art. 38(1)(b), June 26, 1945, Stat. 1055, 33 U.N.T.S. 993 [hereinafter ICJ STATUTE] (customary international law is a primary source of international law).

17 HARRIS, *supra* note 14, at 66–67.

Gammaland,[18] even if the activities are *ultra vires*.[19] Therefore, Gammaland is responsible for the breaches of international law arising from those acts.

Responsibility produces a secondary obligation of liability for the damage caused as a result of an internationally unlawful act.[20] The breaches specified have all caused damage to Deltastan's Space Elevator and therefore Deltastan is liable to make reparations.[21] Reparation entails "[wiping] out all the consequences of the illegal act and [re-establishing] the situation which would … have existed if that act had not been committed".[22] Gammaland is therefore liable to make reparations for the damage caused to the Super String and Drachen components.

1.2 DAMAGE CAUSED BY GAMMALAND'S SPACE ACTIVITIES INCURS STRICT LIABILITY UNDER INTERNATIONAL LAW CONCERNING ULTRAHAZARDOUS ACTIVITIES

It is customary international law, as evidenced by sufficient State practice and *opinio juris*,[23] that States engaging in ultrahazardous activities are subject to strict liability for any damage resulting from such activities.[24] State practice can be evidenced from a State's positive actions, claims and national laws.[25] Following the Cosmos 954 accident, Canada claimed that strict liability applied to "fields of activity having … a high degree of risk" as a

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18 State Responsibility Articles, *supra* note 13, art. 4; United States Diplomatic and Consular Staff in Tehran (U.S. v. Iran), 1980 I.C.J. 3, 3.

19 State Responsibility Articles, *supra* note 13, art. 7.

20 Frans von der Dunk, *Liability Versus Responsibility in Space Law: Misconception or Misconstruction?*, 34 PROC. COLLOQ. L. OUTER SP. 363, 364 (1991).

21 Chorzów Factory (F.R.G. v. Pol.) (Jurisdiction), 1927 P.C.I.J. (ser. A) No. 9, at 21.

22 *Id.*

23 These two elements establish the existence of customary international law: North Sea Continental Shelf (F.R.G. v. Den.; F.R.G. v. Neth.), 1969 I.C.J. 3 (Feb. 20); Vladlen Vereshchetin & Gennady Danilenko, *Custom as a Source of International Law of Outer Space*, 13 J. SPACE L. 22, 24 (1985).

24 William Reichert, *Resolving the Trade and Environment Conflict: The WTO and NGO Consultative Relations*, 5 MINN. J. GLOBAL TRADE 219, 222 (1996).

25 Michael Akehurst, *Custom as a Source of International Law*, 47 BRIT. Y.B. INT'L L. 1, 29 (1979).

principle of customary international law.[26] This principle is also found in the domestic law of many States in relation to ultrahazardous activities, including that of England,[27] the United States,[28] and numerous others.[29] This principle has also been implemented in numerous civil liability conventions related to ultrahazardous activities[30] and in the law of the sea.[31] Many of the most highly qualified publicists also argue that such a principle exists,[32] as does the ILC.[33]

Such a liability regime provides the only legal protection States have for activities which pose an abnormally high risk, and provides States with incentives to adopt special precautions when engaging in such activities.[34] Ultrahazardous activities involve a significant

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26 Canada, *Claim against the Union of Soviet Socialist Republics for Damage Caused by Soviet Cosmos 954*, 18 I.L.M. 899, 907 (1979).

27 Rylands v. Fletcher, L.R. 3 H.L. 330 (1868).

28 *See* RESTATEMENT (SECOND) OF TORTS, § 519 (Tent. Draft No. 10, 1964); Jed Shugerman, *The Floodgates of Strict Liability: Bursting Reservoirs and the Adoption of* Fletcher v. Rylands *in the Gilded Age*, 110 YALE L.J. 333, 335 (2000).

29 The World Commission on Environment and Development identified many jurisdictions that impose strict liability on ultrahazardous acts: France, Germany, Mexico, Venezuela, Egypt, India, Thailand, Syria, Iran, Turkey and Japan and eight others: WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT, EXPERTS GROUP ON ENVIRONMENTAL LAW REPORT, ENVIRONMENTAL PROTECTION AND SUSTAINABLE DEVELOPMENT, LEGAL PRINCIPLES AND RECOMMENDATIONS 95 (1986).

30 Such as for nuclear activities, carriage of oil by sea and civil aviation: PHILIPPE SANDS, PRINCIPLES OF ENVIRONMENTAL INTERNATIONAL LAW 652 (1995); E.R.C. VAN BOGAERT, ASPECTS OF SPACE LAW 165 (1986). *See also* Convention on Third Party Liability in the Field of Nuclear Energy, art. 3, July 29, 1950, 956 U.N.T.S. 251, 55 A.J.I.L. 1082 (1961); Convention on Liability of Operators of Nuclear Ships, art. II, May 25, 1962, 57 A.J.I.L. 268 (1963).

31 A vessel owner has a duty to furnish a seaworthy ship, a duty not discharged by due diligence or ordinary negligence of passengers: Hamilton DeSaussure, *Do We Need a Strict, Limited Liability Regime in Outer Space?*, 22 PROC. COLLOQ. L. OUTER SP. 117, 120 (1979).

32 Cheng, *supra* note 4, at 306; Wilfred Jenks, *Liability for Ultra-Hazardous Activities in International Law*, 117 HAGUE RECUEIL 99, 105 (1966); Louis Goldie, *Liability for Damage and the Progressive Development of International Law*, 14 INT'L & COMP. L.Q. 1189, 1192 (1965); Stanley Mazaroff, *Exoneration from Liability for Damage Caused by Space Activities*, 54 CORNELL L. REV. 71, 80 (1968).

33 International Law Commission, *International Law Commission Report, 1996* (visited Feb. 18, 2005) <http://www.un.org/law/ilc/reports/1996/annex1.htm> (see commentary on article I).

34 Gunther Handl, *State Liability for Accidental Transnational Environmental Damage by Private Persons*, 74 A.J.I.L. 525, 552 (1980).

risk of causing severe transnational damage.[35] Space activities must be classified as ultrahazardous activities.[36] Space activities possess these significant risks, such as the spreading of nuclear contaminants as evidenced by Cosmos 954's pollution of Canada's environment, the risk arising from the size of space objects such as the crash landing of the 85 tonne Skylab and the 135 tonne Mir,[37] and the global reach and high velocities of objects in orbit.[38]

Gammaland's space activities are subject to this strict liability regime. The activities of Inspector, being ultrahazardous, have resulted in direct damage to the Super String for which Gammaland is liable to compensate Deltastan.

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35 Jenks, *supra* note 32, at 107; Handl, *supra* note 34, at 552.

36 BRUCE HURWITZ, STATE LIABILITY FOR OUTER SPACE ACTIVITIES IN ACCORDANCE WITH THE 1972 CONVENTION ON INTERNATIONAL LIABILITY FOR DAMAGE CAUSED BY SPACE OBJECTS 28 (1992); DeSaussure, *supra* note 31, at 120; Cheng, *supra* note 4, at 306.

37 S. Freeland, *There's a Satellite in My Backyard!*, 24(2) U.N.S.W. L.J. 462, 462–63 (2001).

38 Chris Williams, *Space: The Cluttered Frontier*, 60 J. AIR L. & COM. 1139, 1144 (1995).

Section 2 – Gammaland is liable for the damage it caused to Deltastan's fisheries

2.1 GAMMALAND IS LIABLE FOR THE DAMAGE IT CAUSED TO DELTASTAN'S FISHERIES UNDER INTERNATIONAL LAW

(a) Gammaland's breaches of international law also caused damage to Deltastan's fisheries

The breaches identified in section 1.1 have also caused damage to Deltastan's fisheries. Causality, or specifically "proximate causality", is a general principle of international law as evidenced by its recognition in international case law,[39] by many highly qualified publicists,[40] and its wide use in municipal law.[41]

Proximate causality goes beyond mere factual ("but for") causality.[42] It covers damages which would normally flow from an act; damages which a reasonable person in the position of the wrongdoer at the time would have foreseen as likely to result; and all damage intended by the wrongdoer.[43]

The act of Inspector releasing corrosive exhaust towards the Super String is a sufficiently proximate cause of the damage to Deltastan's fisheries. It was reasonably foreseeable that the resulting corrosion of the fragile Super String would lead to its severance,

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39 Administrative Decision No. II (F.R.G. v. U.S.), 7 R.I.A.A. 23, 29–30 (1923) ("all indirect losses are covered"); Lake Lanoux Arbitration (Fra.v. Spain), 12 R.I.A.A. 281 (1957).

40 BIN CHENG, GENERAL PRINCIPLES OF LAW AS APPLIED BY COURTS AND TRIBUNALS 241–56 (1953); HURWITZ, *supra* note 36, at 15–17; CARL CHRISTOL, THE MODERN INTERNATIONAL LAW OF OUTER SPACE 109 (1982).

41 Jay Ginsburg, *The High Frontier: Tort Claims and Liability for Damages Caused by Man-Made Space Objects*, 12 SUFFOLK TRANSNAT'L L.J. 515 (1989); Barbara Spellman & Alexandra Kincannon, *The Relation Between Counterfactual ("But For") and Causal Reasoning*, 64 L. & CONTEMP. PROB. 241 (2001).

42 Naulilaa Claims (Port. v. F.R.G.), 2 R.I.A.A. 1011, 1013 (1928); Spellman & Kincannon, *supra* note 41.

43 CHENG, *supra* note 40, at 253.

resulting in the natural consequence of the Super String re-entering the atmosphere and damaging Deltastan's fisheries.

(b) Additionally, Gammaland has breached international environmental law

It is customary international law that States have a duty not to cause damage beyond their territorial jurisdiction (including the environment of other states) as a result of their activities.[44] This principle is codified in principle 21 of the Stockholm Declaration and other treaties and conventions,[45] as well as being recognised by the most highly qualified publicists.[46] Discharging this obligation requires States to exercise due diligence to take the measures necessary to guard against their activities causing environmental harm.[47] The measure of due diligence is a variable standard, determined by looking at the surrounding facts of a situation,[48] including the resources available to the State and the nature of its specific activities.[49]

Gammaland has violated its obligation not to cause transboundary harm because Inspector's exhaust corroded the Super String, causing it to break and subsequently damage Deltastan's fisheries. Gammaland failed to exercise sufficient due diligence to prevent transboundary harm. Due to the ultrahazardous nature of Gammaland's space activities, a

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44 Trail Smelter Arbitration, *supra* note 1.

45 Rio Declaration on Environment and Development, principle 2, U.N. Doc.A/CONF.151/6/Rev.1 (1992), reprinted in 31 I.L.M. 874; United Nations Convention on the Law of the Sea, Dec. 10, 1982, art. 194(1), 21 I.L.M. 1245, 1308 (entered into force Nov. 16, 1994) (due diligence in the context of the sea environment); BIRNIE & BOYLE, *supra* note 45, at 91 (stating that principle 21 has influenced U.N. resolutions and multilateral treaties such as the Geneva Convention and the Basel Convention on the Transboundary Movement of Hazardous Wastes).

46 SANDS, *supra* note 30, at 190; PATRICIA BIRNIE & ALAN BOYLE, INTERNATIONAL LAW AND THE ENVIRONMENT 90 (1992); Max Soto, *Note and Comment, General Principles of International Environmental Law*, 3 ILSA J. INT'L & COMP. L. 193 (1996).

47 BIRNIE & BOYLE, *supra* note 45, at 92–94.

48 Lisa Kaplan, *International Responsibility of an Occupying Power for Environmental Harm: The Case of Estonia*, 12 TRANSNAT'L L. 153, 200 (1999).

49 BIRNIE & BOYLE, *supra* note 45, at 93.

higher measure of diligence is demanded of Gammaland.[50] Under this higher standard, Gammaland would have been required to understand the corrosive properties of its exhaust as well as maintain a safe distance from other space objects. Gammaland's failure to discharge these duties clearly establishes a lack of due diligence and constitutes a breach of its obligations under international law.

(c) Gammaland's breaches caused damage to the Space Elevator and therefore entail international responsibility and liability

As submitted in section 1.1(d), international law places an obligation on States to "wipe out *all* the consequences" of an internationally unlawful act.[51] Gammaland is liable to make reparation for "any direct loss, damage, including environmental damage"[52] resulting from the unlawful acts of Inspector, specifically, damage to Deltastan's fisheries.

2.2 GAMMALAND IS ALSO LIABLE UNDER THE LIABILITY CONVENTION

(a) Inspector is a space object

The Liability Convention defines a "space object" as including the "component parts of a space object as well as its launch vehicle and parts thereof".[53] It is generally accepted that the definition covers spacecraft and satellites.[54] Several highly qualified publicists have also classified space objects using either the functional approach[55] or the locus approach.[56] The

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50 *Id.*

51 Chorzów Factory (Jurisdiction), *supra* note 21, at 21 (emphasis added).

52 S.C. Res. 687, U.N. SCOR, 46th Sess., 2981st mtg., at 14, U.N.Doc. S/RES/687 (1991) (Iraq & Kuwait), quoted in *Report of the International Law Commission on the Work of its Fifty-third Session*, International Law Commission, 56th Sess., at 223, U.N. Doc. A/56/10 (2001) [hereinafter State Responsibility Articles Commentaries].

53 Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, art. I(d), 961 U.N.T.S. 197 (entered into force Sept. 1, 1972) [hereinafter Liability Convention].

54 CHENG, *supra* note 5, at 599.

55 HURWITZ, *supra* note 36, at 25; Christopher Petras, *"Space Force Alpha": Military Use of the International Space Station and the Concept of "Peaceful Purposes"*, 53 A.F. L. REV. 135, 155 (2002).

Court is not required to decide which of these two approaches should be preferred as Inspector (a satellite launched by Gammaland) is a space object under both.

(b) Gammaland incurs absolute liability under article II of the Liability Convention for damage caused to Deltastan's fisheries

Article II of the Liability Convention applies to the damage to Deltastan's fisheries because this damage has been caused on the surface of the Earth by a space object, namely Inspector.

Consequential damage is necessarily covered by the Liability Convention, subject to the damage being proximate to the relevant act.[57] This interpretation of damage is supported by the victim-oriented purpose of the Liability Convention.[58] In the *travaux préparatoires*, a majority of States consciously refrained from explicitly including consequential or indirect damage in the definition of "damage" and instead preferred to resort to the international law principle of proximate causality (identified in section 2.1(a)) to determine what damage is covered by the Liability Convention.[59]

As submitted in section 2.1(a), the acts of Inspector caused the damage to Deltastan's fisheries. Therefore, Gammaland is absolutely liable for causing damage of a consequential nature to Deltastan's fisheries.

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[56] An object must reach outer space to be a space object: Henri Wassenbergh, *A Launch and Space Transportation Law, Separate From Outer Space Law?*, 21 AIR & SPACE L. 28, 29 (1996).

[57] HURWITZ, *supra* note 36, at 31

[58] CARL CHRISTOL, INTERNATIONAL SPACE LAW, PAST, PRESENT AND FUTURE 211 (1991).

[59] CHENG, *supra* note 5 at 323 (a majority of delegates expressed that the definition of damage revolved around "proximate or adequate causality"). *See also* U.N. Doc. A/AC.105/C.2/L.61 and Corr. 1 (Working Paper submitted by Japan), cited in *id*.

(c) Exoneration is unavailable for Gammaland because there was no gross negligence or intention to cause damage by Deltastan

Gammaland is not entitled to exoneration under article VI(1) of the Liability Convention, which provides States with exoneration from absolute liability if the damage resulted, wholly or partially, from the gross negligence of, or an act or omission done with intent to cause damage, by the claimant State.

Negligence is a general principle of law and has been defined in international case law as a failure "by a reasonable person to use that degree of care, diligence, and skill which it was his legal duty to use for the protection of another person from injury as, in a natural and continuous sequence, causes unintended injury to the latter".[60] It is a principle widely used in common law systems[61] and in civil law systems where it is known as "quasi-delict".[62]

"Gross negligence" is not defined in the Liability Convention, but it signifies negligence of a substantially and appreciably higher magnitude than normal negligence.[63]

The only act of Deltastan which contributed to the damage to its fisheries was the moving of Sea Anchor, an action reasonably foreseeable by Gammaland. This was standard procedure and a protective response to the risk posed by the storm approaching at the time.

Deltastan was also not negligent, let alone grossly negligent, in failing to check the structural integrity of the Super String before performing the move. Given the time constraints posed by the approaching storm and the fact that a safety review had recently been carried out, it cannot be said that Deltastan should have reasonably checked some tens of thousands of kilometres of Super String before moving it, particularly given that the move was a routine procedure.

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60 Davis, 402 Ven. Arb. 406 (1903), quoted in CHENG, *supra* note 40, at 226.

61 *See* Donoghue v. Stevenson, 1932 A.C. 562, widely cited in all common law jurisdictions (including the United States, Canada, Australia, New Zealand and India).

62 Kenzo Takayanagi, *Liability Without Fault in the Modern Civil and Common Law*, 16 ILL. L. REV. 268, 271 n.54 (1921).

63 Mazaroff, *supra* note 32, at 91–94.

(d) In any event, exoneration is unavailable to Gammaland from absolute liability due to its breaches of international law

Article VI(2) of the Liability Convention makes exoneration unavailable to a launching State which has caused damage through an act which violates an international obligation.

As submitted in section 1.1, Gammaland is responsible for several breaches of international law which caused consequential damage to Deltastan's fisheries. Therefore, Deltastan is not entitled to claim exoneration.

Section 3 – Deltastan is not liable for damage to Gammaland's satellites

3.1 DELTASTAN WAS NOT RESPONSIBLE FOR ANY BREACHES OF INTERNATIONAL LAW WHEN IT DISABLED GAMMALAND'S SATELLITES

(a) Deltastan's act of disabling Gammaland's satellites is a lawful act of self-defence

A State's use of force is lawful where it is an exercise of a State's inherent right of self-defence. This is enshrined in article 51 of the UN Charter and is also a well established principle in customary international law.[64] Article 36 of the State Responsibility Articles also recognises self-defence as precluding the wrongfulness of a use of force that would otherwise violate article 2(4) of the Charter.[65] In disabling Gammaland's satellites, Deltastan was acting lawfully in self-defence and cannot be held liable for any resultant damage to Gammaland. Its actions fulfil the legal conditions of necessity and proportionality of response to an "armed attack".[66]

(i) Deltastan was entitled to interpret the severance of the Super String as the beginning of an armed attack

"Armed attack" is not defined in the UN Charter, but it goes beyond a mere "threat or use of force".[67] Various factors must be considered in identifying an armed attack: whether the attack had a "substantial effect",[68] the method of force used, the location of the attack,[69] and any surrounding circumstances at the time.[70]

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64 Military and Paramilitary Activities (Nicar. v. U.S.) (Merits), 1986 I.C.J. 4 (June 27).
65 State Responsibility Articles, *supra* note 13, art. 36.
66 U.N. CHARTER art. 51; The Caroline, 2 Moore 409 (1837); Albrecht Randelzhofer, *Article 51*, *in* THE CHARTER OF THE UNITED NATIONS 662, 667 (Bruno Simma ed., 1995).
67 Randelzhofer, *supra* note 66, at 667.
68 *Id.* at 669.
69 Erin Guruli, *The Terrorism Era: Should the International Community Redefine Its Legal Standards on Use of Force in Self-Defence?*, 12 WILLAMETTE J. INT'L L. & DISP. RESOL. 100, 110 (2004).
70 Randelzhofer, *supra* note 66, at 669.

The most highly qualified publicists have asserted that in the heat of the moment, it is neither possible nor desirable to assess whether an attack meets the requisite legal threshold with the kind of measured objectivity that hindsight and multilateral consultation may afford after the event.[71] Therefore, a State is entitled to act on the information available *at the time*, so long as that information is interpreted reasonably and with sound judgement, even if it is later discovered that the situation proved to be less dire. This was the case in the "Six Days War" of June 1967, in which Israel's assessment of Egyptian diplomatic and military movements provided valid grounds for Israel to launch defensive strikes against the impending attack.[72]

In this case, the sudden severance of the Super String triggered an emergency in which Deltastan could not practicably perform an investigation of what really happened. Its first priority was the safety of the crew aboard Drachen. Any delay could have resulted in loss of life. Operational failure was improbable given that a safety investigation had recently concluded and no operation out of the ordinary was being attempted.[73] Given the high tensions arising from the recent exchange of threats between Gammaland and Deltastan, the resultant defensive alert status of Drachen, and the fact that the failure of the Super String occurred shortly after Inspector had moved to within an unsafe distance of the Super String to spy on it, it was reasonable to conclude in light of this information which was the information available at the time, that a satellite of Gammaland had been the external factor responsible for severing the Super String.

The incident had an immediate and catastrophic effect – the complete destruction of the Space Elevator, jeopardising the lives of Drachen's crew. This event was indistinguishable

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71 YORAM DINSTEIN, WAR, AGGRESSION AND SELF-DEFENCE 173 (2001); *See also* Gyula Gal, *Military Space Activity in the Light of General International Law*, 45 PROC. COLLOQ. L. OUTER SPACE 162, 167 (2002): "military command[ers] certainly would have no time to [consider legalities when] faced with an imminent identified attack from space".

72 DINSTEIN, *supra* note 71, at 173.

73 *Compromis* para. 14.

from an armed attack. In this age of terrorism, armed attacks are no longer restricted to use of explosives or ammunition. They also include "bacteriological, biological and *chemical* devices" used against States.[74] Such attacks are invisible and cannot be identified until their effects have been felt, as was the case here. Based on the magnitude of the damage to property,[75] endangerment of life and the other surrounding circumstances noted above, Deltastan was lawfully permitted to conclude that an armed attack had begun on Drachen.[76] In light of the information available at the time, this was a completely reasonable interpretation of events.[77]

(ii) The acts of self-defence were necessary and proportionate to the armed attack

The requirement of proportionality has been interpreted to mean that "the means employed … have to be strictly necessary *for repelling the attack*" and "must not entail retaliatory or punitive actions".[78] Proportionality does not mean that a State is only permitted to exert a level of force strictly comparable to that exerted against it. Rather, it is the ends of the force employed that must be examined.

In this case, the precise source of the invisible armed attack was unascertainable. Deltastan was lawfully entitled to protect its sovereignty over its people and property from this attack by disabling Gammaland's satellites, an act proportionate to both the large scale of the damage to the Space Elevator, and also to the goal of halting the perceived attack.

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74 IAN BROWNLIE, INTERNATIONAL LAW AND THE USE OF FORCE BY STATES 362 (1963) (emphasis added).

75 DINSTEIN, *supra* note 71, at 174; Oscar Schachter, *The Right of States to Use Armed Force*, 82 MICH. L. REV. 1620 (1983).

76 *Compromis* para. 21.

77 DINSTEIN, *supra* note 71, at 173.

78 Randelzhofer, *supra* note 66, at 677 (emphasis added). Military and Paramilitary Activities, *supra* note 64, at 103, 122.

While significant, the reaction was not extreme, protracted, or indiscriminate.[79] The targets had been selected with the sole criterion of whether or not they posed a threat to the Space Elevator. All the satellites targeted could have endangered the safety of the crew aboard Drachen. In the arena of space, neither mere distance nor a satellite's primary function is evidence that a satellite could not have been a source of threat. For example, it is a well-known fact that satellites may function as guidance systems for weapons platforms located elsewhere than at the satellite's position, and for military reconnaissance and communications purposes (such as Global Positioning System satellites).[80] In the circumstances it was reasonable for Deltastan to conclude that, like GammaSat II and the unregistered Inspector, these satellites had dual military functionality.

3.2 DELTASTAN IS NOT LIABLE UNDER ARTICLE III OF THE LIABILITY CONVENTION

Article III of the Liability Convention makes a launching State liable for damage its space object causes to the space object of another State elsewhere than on the Earth's surface if the damage is due to the fault of the former State.

(a) Drachen's defence system is not a "space object" under the Liability Convention

The United Nations Committee on the Peaceful Uses of Outer Space (UNCOPUOS), the body charged with drafting the Liability Convention, was a body set up to focus solely on regulating the peaceful uses of outer space.[81] The Liability Convention was drafted to cover only accidental harm resulting from the exploration and other peaceful uses of space – namely, the physical collision of physical space objects, or the harmful effects "of the object's non-

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79 *Cf.* Naulilaa Claims, *supra* note 42, at 1026.

80 Sylvia Williams, *International Law and the Military Uses of Outer Space*, 9 J. INT'L REL. 407 (1990).

81 Vladimir Kopal, *Evolution of the Main Principles of Space Law in the Institutional Framework of the United Nations*, 12(1) J. SPACE L. 12, 13–14 (1984).

destructive function".[82] This is clear from the *travaux préparatoires*,[83] and is a view shared by many of the most highly qualified publicists.[84]

As such, UNCOPUOS' focus on "peaceful purposes" means that military systems fall outside the scope of the Liability Convention. Military activity is not mentioned at all in the Liability Convention, and UNCOPUOS member States entered into the Liability Convention with the understanding that UNCOPUOS would not attempt to restrict their military space programs.[85] This indicates that UNCOPUOS only intended the Convention to cover ordinarily harmless, non-destructive space objects and not to dictate the legal implications of a military system capable of damaging space objects.[86]

Another indication that UNCOPUOS did not intend the Convention to apply to military systems is the rationale of reciprocal risks which underpins the fault principle in article III.[87] A military system imposes on other space objects not only the reciprocal risk of collision, but also a one-way risk of (accidental) attack, showing the inappropriateness of applying article III to such systems.[88]

In this case, Drachen's defence system is a military defence system capable of inflicting accidental damage without colliding with another object. As such, it, and any damage it caused, does not fall within the scope of the Liability Convention.

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82 Edward Hennessey, *Liability for Damage Caused by the Accidental Operation of a Strategic Defense Initiative System*, 21(2) CORNELL INT'L L.J. 317, 324 (1988).

83 "[T]wo space objects can cause damage to each other only by (accidental) collision. … It is difficult, if not impossible, to conceive of another cause": U.N. Doc. A/AC.105/85, Annex I (Italian delegate's comments to COPUOS).

84 Carl Christol, *International Liability for Damage Caused by Space Objects*, 74 AM. J. INT'L L. 346, 359, 368 (1980); JAMES E. S. FAWCETT, INTERNATIONAL LAW AND THE USES OF OUTER SPACE 57 (1968).

85 MANFRED LACHS, THE LAW OF OUTER SPACE 30 (1972); CHRISTOL, *supra* note 40, at 13.

86 Hennessey, *supra* note 82, at 326.

87 VAN BOGAERT, *supra* note 30, at 67.

88 Hennessey, *supra* note 82, at 329.

(b) Even if the Liability Convention applies, Deltastan is not at fault and therefore is not liable

Fault is not defined in the Liability Convention, but the inclusion of fault-based liability in it implies State consensus on the definition of fault, despite its different meanings in civil and common law systems.[89] A State is at fault for causing damage where it has been negligent, failing to exercise reasonable prudence under the circumstances.[90]

Under the fault liability regime set out in article III, "there is automatically exoneration in cases of negligence [of the claimant]".[91] Even if the Liability Convention does apply, Deltastan was not at fault. Fault lies solely with Gammaland, because, but for the negligent acts Gammaland committed resulting in the severance of the Super String, the automated defence program would not have been triggered and thus damage to the satellites would not have occurred.

Gammaland was negligent because it should have researched the properties of its new fuel and the effects its exhaust would have on other space objects. Gammaland was also negligent in manoeuvring Inspector so close to the Super String, which was obviously a fragile structure. Gammaland failed to recognise these risks. This failure demonstrates a considerable lack of reasonable prudence and constitutes negligence.

Further, Deltastan's response to a catastrophic failure in the Super String was reasonable in the circumstances and was a valid exercise of its right of self-defence, as provided by the UN Charter and submitted in section 3.1(a) above.

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89 Edward Frankle, *International Regulation of Orbital Debris*, 43 PROC. COLLOQ. L. OUTER SPACE 369, 374 (2000).

90 HURWITZ, *supra* note 36, at 27, 33; *id*. at 373–74.

91 To avoid doubt, exoneration here is not being used in the same sense as "exoneration" in art. VI of the Liability Convention: HURWITZ, *supra* note 36, at 41.

3.3 SELF-DEFENCE EXONERATES GAMMALAND FROM LIABILITY UNDER THE OUTER SPACE TREATY AND THE STRICT LIABILITY REGIME FOR ULTRAHAZARDOUS ACTIVITIES

(a) Article VII of the OST imposes a strict liability regime

Article VII of the OST imposes liability on a State which launches an object into outer space when that object then causes damage to another State. It is ambiguous what liability regime exists,[92] but supported by the *travaux préparatoires* and opinions of the most highly qualified publicists,[93] Deltastan submits that article VII of the OST imposes a strict liability regime.

Drafters of the convention deliberately refrained from defining "international liability" as absolute liability,[94] recognising that "liability was necessarily subject to limitations and qualifications if justice was to be achieved".[95] These limitations imply a strict liability rather than a fault liability regime, with various avenues of exoneration available for States. "Fault" is mentioned nowhere in article VII of the OST, which only requires damage to be caused by an object to trigger liability.

Further, the Liability Convention's liability scheme does not override the OST's under the maxim of *generalia specialibus non derogant*[96] because they do not cover the same subject matter (the Liability Convention applies to space objects and provides a

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92 Cheng, *supra* note 4, at 306.

93 *See especially* Mazaroff, *supra* note 32, at 80 nn.54–59 (citing Beresford, Taubenfeld, Jenks, and others).

94 CHRISTOL, *supra* note 58, at 214; U.N. Doc. A/AC.105/25, Annex 3, at 10 (1966) (U.S. delegate); U.N. Doc. A/6431, Annex 3, at 12 (1966) (Soviet delegate).

95 U.N. Doc. A/AC.105/C.2/SR.71, at 14 (1965) (Australian delegate). *See also* U.N. Doc. A/AC.105/C.2/L.8/Rev.3 (1965) (U.S. delegate).

96 Earlier general provisions are not to be preferred over later specific provisions: REG BARTLEY, THE MODERN APPROACH TO STATUTORY CONSTRUCTION 140 (2000); Vienna Convention on the Law of Treaties, May 23, 1969, art. 30(2), 1155 U.N.T.S. 331 (entered into force Jan. 27, 1980) [hereinafter Vienna Convention].

comprehensive procedural framework for compensation claims, whereas the OST applies to objects launched into outer space).

(b) Self-defence exonerates Deltastan from strict liability

As submitted in section 3.1, Deltastan damaged the satellites when it responded to an armed attack using its inherent right of self-defence. It is illogical to impose liability on Deltastan when it was legally defending its property from further damage and its nationals from a life-threatening situation by disabling its attacker. Indeed, there are many forms of exoneration from strict liability at international law based on similar rationales, including damage caused as a result of armed conflict, contributory negligence and *force majeure*.[97]

Self-defence is available under the UN Charter, which prevails over all other inconsistent treaties[98] (including article VII of the OST) and customary international law (including strict liability for ultrahazardous activities).[99] Self-defence against an armed attack therefore exonerates Deltastan from such liability.

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97 HURWITZ, *supra* note 36, at 40–41.
98 U.N. CHARTER art. 103.
99 ICJ STATUTE art. 38(1).

Section 4 – Deltastan is not liable for the environmental damage sustained by Gammaland

4.1 DELTASTAN IS NEITHER RESPONSIBLE NOR LIABLE FOR THE ENVIRONMENTAL DAMAGE SUSTAINED BY GAMMALAND

(a) Deltastan did not breach the duty not to cause transboundary harm under international environmental law

Deltastan did not breach any of its duties under international environmental law. In exercising its right to use outer space under article I of the OST, Deltastan was under an obligation to refrain from causing transboundary harm.[100] However, the obligation is subject to the qualification that a State is only required to exercise due diligence.[101] The measure of due diligence is determined subjectively by looking at the surrounding facts of a situation,[102] including the resources available to the State and the nature of its specific activities.[103]

The evidence before this Court indicates that that Deltastan had maintained a high degree of diligence in conducting its space activities. The Space Elevator was well monitored by Deltastan at all times and safety was always a primary concern, as illustrated by Deltastan's response to operational failures and weather forecasts. By moving the Space Elevator in anticipation of the storm, Deltastan was exercising due care by attempting to prevent damage to the Space Elevator and any consequential damage that might have resulted. Therefore, Deltastan should not be held liable for the damage that resulted.

(b) Deltastan did not breach article IX of the Outer Space Treaty

Deltastan did not breach article IX of the OST by introducing the Super String back into the Earth's environment. Article IX obliges States to avoid causing adverse changes in the

[100] Stockholm Declaration, *supra* note 3, principle 21.
[101] BIRNIE & BOYLE, *supra* note 45, at 92–94.
[102] Kaplan, *supra* note 48.
[103] BIRNIE & BOYLE, *supra* note 45 at 93.

Earth's environment by introducing "extraterrestrial matter". One reason article IX was drafted was to protect against "back contamination" resulting from the "*introduction* of undesirable extraterrestrial matter into the environment of the earth" such as extraterrestrial bacteriological organisms.[104] "Extraterrestrial" therefore means matter *originating* from outer space, which does not include matter entering from outer space which originally came from the Earth.[105]

The Super String, not being extraterrestrial matter, does not come under the scope of article IX.

(c) The defence of *force majeure* applies to preclude the wrongfulness of any act

Force majeure has been acknowledged as a general principle of law and a valid defence[106] against "an otherwise well-founded claim for the breach of an international obligation".[107] In order for a situation of *force majeure* to arise, three elements must be present. The act must be due to an "irresistible force or unforseen event"; that force or event has to be "beyond the control of the State"; and performance of the international obligation that was purportedly breached must be "materially impossible" as a result of the event.[108] *Force majeure* has been accepted as precluding wrongfulness in cases where bad weather has damaged a State's aircraft and forced its unauthorised entry into another State's airspace.[109]

Two *force majeure* events acting in concert made it materially impossible for Deltastan to prevent the Super String contaminating Gammaland's territory: the corrosion of the Super

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[104] STEPHEN GOROVE, STUDIES IN SPACE LAW: ITS CHALLENGES AND PROSPECTS 157 (1977) (emphasis added).
[105] Lucinda Roberts, *Orbital Debris: Another Pollution Problem for the International Legal Community*, 11 FLA. J. INT'L L. 613, 619 (1997).
[106] Rainbow Warrior (N.Z. v. Fra.), 20 R.I.A.A. 217, para. 77 (1990).
[107] State Responsibility Articles Commentaries, *supra* note 52, at 169.
[108] State Responsibility Articles, *supra* note 13, art. 23.
[109] Treatment in Hungary of Aircraft and Crew of the United States of America (U.S. v Hung.), 1954 I.C.J. 99.

String by Inspector's exhaust, and the storm. Both were unforeseen external events clearly beyond the control of Deltastan.

Due to the corrosion, moving Sea Anchor necessarily resulted in the Super String's severance.[110] However, failing to move Sea Anchor would have led to the same result because the oncoming storm clearly posed a major threat to the Space Elevator's structural integrity.

Any wrongfulness of Deltastan's conduct is therefore precluded on the basis of *force majeure*.

4.2 DELTASTAN IS NOT LIABLE UNDER ARTICLE II OF THE LIABILITY CONVENTION FOR ENVIRONMENTAL DAMAGE TO GAMMALAND

(a) Deltastan is not liable for damage to Gammaland which Gammaland also caused and which would not have occurred but for Gammaland's negligent act

The Super String would not have broken and damaged Gammaland's environment but for Gammaland's act of damaging it in the first place. The situation of two States jointly causing damage to a State on the surface of the Earth is not covered by the joint and several liability articles of the Liability Convention where the damaged State is also one which caused the damage.[111] The uniqueness of this situation requires the Court to look broadly at the objects of the Liability Convention to see how article II should be interpreted in this case. One of the objects of the Liability Convention is to provide compensation on a just and equitable basis.[112] Equity is also a general principle of law as held by this Court.[113] It would be grossly inequitable and unjust if Gammaland could claim that Deltastan was liable and thus be rewarded for the damage that Gammaland *itself* caused in the first place, damage which

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[110] *Compromis* paras. 27, 38.
[111] *Cf.* Liability Convention, *supra* note 53, art. IV(1)(a).
[112] *Id.* art. XII, preamble.
[113] Barcelona Traction, Light and Power Company Limited (Belg. v. Spain) (Second Phase), 1970 I.C.J. 3.

would not have occurred but for Gammaland's interference. Therefore, Deltastan should not be held liable as the State which caused the damage to Gammaland.

(b) Even if Deltastan caused the damage, Deltastan is exonerated from liability due to the gross negligence of Gammaland

Gammaland cannot demand reparation for damage that it caused by its own gross negligence or deliberately injurious acts.[114] Gammaland's act of contamination was grossly negligent for several reasons. First, a reasonable State would have tested the new fuel to ensure it did not cause any harm to other objects in the heavily populated geostationary orbit. This was not done. Second, if Gammaland could not test by itself, it should have at least entered into consultations with Deltastan concerning possible impacts upon the Space Elevator, in the vicinity of which Gammaland knew Inspector would be operating (as submitted in section 1.1(c)). Additionally, the violation of numerous international obligations detailed in section 1.1 further exhibits Gammaland's general lack of care. Wanton failure to take any care at all constitutes gross negligence which exonerates Deltastan from any liability.

4.3 DELTASTAN IS EXONERATED FROM ANY LIABILITY ARISING FROM THE OUTER SPACE TREATY AND THE STRICT LIABILITY REGIME FOR ULTRAHAZARDOUS ACTIVITIES

As submitted in section 1.2, the liability regime for damage resulting from ultrahazardous activities is one of strict liability, allowing States to escape liability given certain exonerating circumstances. Deltastan submits that article VII of the OST similarly imposes a strict liability regime for damage caused by a State's object in outer space as submitted in section 3.3(a).

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[114] Liability Convention, *supra* note 53, art. VI(1).

The OST does not specify any areas of exoneration, so recourse must be made to general international law. [115]

Where a claimant is contributorily negligent, the party claimed against will be exonerated from liability to the extent of the contributory negligence. This principle is widely recognised in municipal law[116] and by the most qualified publicists,[117] and appears in article 39 of the State Responsibility Articles. This concept also appears in article VI of the Liability Convention, and various other international civil liability conventions.[118]

For the same reasons as in section 4.2(b), Gammaland was grossly and *exclusively* negligent in causing the damage which resulted to its environment. This completely exonerates Deltastan from any strict liability arising under the OST or for damage resulting from ultrahazardous activities.

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[115] ICJ STATUTE art. 38(1)(c).

[116] In the United States: RESTATEMENT (SECOND) OF TORTS, § 524 (Tent. Draft No. 10, 1964); in England and Australia: Froom v. Butcher, [1975] 3 All E.R. 520 (1975); for Europe *see* Takayanagi, *supra* note 62 at 270 *et seq*.

[117] HURWITZ, *supra* note 36 at 40; Mazaroff, *supra* note 32 at 81–82; JENKS, *supra* note 7, at 286-87.

[118] *See* HURWITZ, *supra* note 36 at 40.

Section 5 – Gammaland is liable to return Drachen to Deltastan

5.1 GAMMALAND IS LIABLE UNDER THE RESCUE AGREEMENT AND THE OUTER SPACE TREATY TO RETURN DRACHEN

(a) The Rescue Agreement obliges Gammaland to return Drachen to Deltastan

Articles 5(1) and 5(3) of the Rescue Agreement[119] oblige a State to return any object (or component part of an object) launched into outer space that has returned to Earth in territory under its jurisdiction to representatives of its launching authority upon that authority's request.

Drachen's construction in outer space should not preclude its classification as an object which was launched into outer space. One of the purposes of the Rescue Agreement is to promote international co-operation.[120] Therefore "launch" should be interpreted broadly, as States should not fail to receive the benefits of the Rescue Agreement merely because its objects in outer space happened to be constructed there. The analogous situation of the International Space Station (ISS) is an example of subsequent practice supporting this interpretation of "launched".[121] The ISS is still considered an object launched into outer space, even though constructed there, because all of its components were launched into outer space.[122] Most States have not defined "launch" in their domestic legislation, reflecting that its plain meaning is clear. Australia has defined it as "transporting" an object into outer space.[123]

Therefore, Deltastan is Drachen's launching authority.[124]

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[119] Rescue Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, Apr. 22, 1968, 672 U.N.T.S. 119 (entered into force Dec. 3, 1968) [hereinafter Rescue Agreement].
[120] *Id.* at preamble.
[121] Vienna Convention, *supra* note 96, art. 31(3)(b).
[122] Lara Manzione, *Multinational Investment in the Space Station*, 18 AM. U. INT'L L. REV. 507, 523 (2002).
[123] Space Activities Act, 1998, § 8 (Austl.).
[124] Rescue Agreement, *supra* note 119, art. 6.

A State does not need to register an object launched into space in order to request its return and there are no requirements for when or in what form a request for return must be made.[125] Therefore, when Deltastan requested, during negotiations,[126] for the return of Drachen, this gave rise to an unconditional obligation for Gammaland to return Drachen,[127] even though Deltastan, as Drachen's launching authority, must bear the costs incurred in its return.[128] This obligation continues and Gammaland is still liable to return Drachen.

(b) Article VIII of the Outer Space Treaty also obliges Gammaland to return Drachen to Deltastan

Additionally, article VIII of the OST states that ownership of objects launched into outer space does not change when they return to Earth and further, that if such objects are found beyond the territorial limits of their owner, they shall be returned to their owner. First, Gammaland's act of retaining and disassembling Drachen demonstrates Gammaland's claim of ownership over Drachen, which clearly breaches article VIII of the OST. Secondly, Gammaland is obliged under the OST to return Drachen to Deltastan as the ownership of Drachen remains with Deltastan despite it being within Gammaland's territorial jurisdiction. Accordingly, these breaches must be redeemed by *restitutio in integrum*,[129] namely, the return of Drachen to Deltastan.

5.2 GAMMALAND'S REFUSAL TO RETURN DRACHEN IS NOT A VALID COUNTERMEASURE

Should a State breach an international obligation and thereby cause damage to another State, the latter may breach its own obligations under treaty or custom to induce the former to

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[125] CHENG, *supra* note 5, at 280.
[126] *Compromis* para. 25.
[127] LACHS, *supra* note 85, at 84.
[128] Rescue Agreement, *supra* note 119, art. 5(5).
[129] State Responsibility Articles, *supra* note 13, art. 35.

comply with the initial obligation.[130] It is an essential condition of such a countermeasure that it can only be taken in response to a wrongful act.[131] Additionally, countermeasures by nature are temporary, non-punitive[132] and designed to restore equality between disputing States to encourage them to reach an agreement.[133] Additionally, they are a form of self-help which should only be employed in the absence of an impartial third-party dispute resolution mechanism.[134]

In this case, Gammaland cannot justify its treaty violation (the continued detention of Drachen) on the grounds that Drachen was used to disable Gammaland's satellites. As submitted in section 3.1, the Drachen's act was one of self-defence and is thus precluded from wrongfulness. Countermeasures are therefore unavailable.

Even if the Court decides that Deltastan has committed an internationally unlawful act, which Deltastan denies, the detention and disassembly of Drachen does not help to restore equality between the parties. Drachen's disassembly represents a punitive measure, which is never valid for a countermeasure. Also, the dispute is now before a Court whose decision will be binding upon the parties (who are both currently adhering to proceedings in good faith). This renders countermeasures unnecessary. The continued detention of Drachen is therefore unjustifiable and is an illegal act.

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130 State Responsibility Articles, *supra* note 13, art. 23.
131 *Id.* art. 49; Gabčíkovo-Nagymaros Project, *supra* note 11.
132 State Responsibility Articles, *supra* note 13, arts. 49(2), 49(3).
133 Air Services Agreement Between France and the United States (Fra. v. U.S.), 18 R.I.A.A. 417 (1978).
134 State Responsibility Articles Commentaries, *supra* note 52, at 347–48. *See also* ICJ STATUTE art. 41. *Cf.* State Responsibility Articles, *supra* note 13, art. 52(3)(b).

SUBMISSIONS TO THE COURT

For the foregoing reasons, the Government of Deltastan, Applicant, respectfully requests the Court to adjudge and:

1. ***declare*** that the Respondent is liable for the damage caused to the Space Elevator and its component parts;

2. ***declare*** that the Respondent is liable for the damage caused to Applicant's fisheries;

3. ***declare*** that the Applicant is not liable for damage to the Respondent's satellites;

4. ***declare*** that the Applicant is not liable for the environmental damage sustained by the Respondent and thus for any payment of compensation for clean up costs;

5. ***declare*** that the Respondent is liable to return Drachen Station; and

6. ***deny*** all relief requested by the Government of Gammaland, Respondent.