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ANNEX I

RELEVANT EXTRACTS FROM THE OUTER SPACE TREATY

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, 1967

The Republic of Arkania and the Republic of Novaris are Parties to the Outer Space Treaty.

Article III — Activities in Accordance with International Law
The activities of States Parties in the exploration and use of outer space, including the Moon and other celestial bodies, shall be conducted in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

Article VI — Responsibility for National Activities

States Parties bear international responsibility for national activities in outer space, including activities carried on by governmental and non-governmental entities. The activities of non-governmental entities require authorization and continuing supervision by the appropriate State Party.

Article VII — International Liability

Each State Party that launches or procures the launching of an object into outer space, and each State Party from whose territory or facility an object is launched, is internationally liable for damage caused by such object or its component parts on the Earth, in air space or in outer space.

Article IX — Due Regard and Environmental Protection

States Parties shall conduct activities in outer space with due regard to the corresponding interests of other States Parties. They shall conduct activities to avoid harmful contamination of outer space and adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter.

Where a State has reason to believe that an activity may cause potentially harmful interference with activities of other States Parties, appropriate international consultations shall be undertaken.

ANNEX II

RELEVANT EXTRACTS FROM THE LIABILITY CONVENTION

Convention on International Liability for Damage Caused by Space Objects, 1972

The Republic of Arkania and the Republic of Novaris are Parties to the Liability Convention.

Article I — Definitions

"*Damage*" includes loss of life, personal injury or other impairment of health, or loss of or damage to property of States, persons, natural or juridical entities. "*Launching State*" includes a State which launches or procures the launching of a space object and a State from whose territory or facility a space object is launched.

Article II — Absolute Liability

A launching State shall be absolutely liable to pay compensation for damage caused by its space object on the surface of the Earth or to aircraft in flight.

Article III — Fault-Based Liability

Where damage is caused elsewhere than on the surface of the Earth to a space object of another launching State, or to persons or property aboard such an object, liability shall arise only where the damage results from the fault of the launching State or persons for whom it is responsible.

Article VI — Exoneration

A launching State may be wholly or partially exonerated where it establishes that the damage resulted wholly or partly from the gross negligence or intentional act or omission of the claimant State.

Article VI (2) — Limitation on Exoneration

No exoneration, of whatever degree, shall be allowed if the damage has resulted from activities conducted by the launching State which are not in conformity with international law and if the damage is such as to justify the launching State being liable therefor.

Article XII — Compensation

Compensation shall be determined in accordance with international law and the principles of justice and equity, so as to provide such reparation in respect of the damage as will restore the person, State or international organization to the condition that would have existed if the damage had not occurred.

ANNEX III

RELEVANT EXTRACTS FROM THE REGISTRATION CONVENTION

Convention on Registration of Objects Launched into Outer Space, 1975

The Republic of Arkania and the Republic of Novaris are Parties to the Registration Convention.

Article II — National Registry

Each launching State shall maintain an appropriate registry of space objects launched into outer space. Where two or more States qualify as launching States, they shall jointly determine which State shall maintain the registry.

Article III — United Nations Register

The Secretary-General of the United Nations shall maintain a Register into which information furnished by States Parties concerning space objects shall be recorded.

Article IV — Information Furnished

Each launching State shall furnish, as soon as practicable, information concerning each space object carried on its national registry, including:

(a) name of launching State or States;

(b) appropriate designator or registration number;

(c) date and territory or location of launch;

(d) basic orbital parameters; and

(e) general function of the space object.

Additional information may be furnished where appropriate.

Article VI — Responsibility for Registration

Where a space object is jointly registered or where more than one State qualifies as a launching State, the relevant States shall determine responsibility for registration and identification.

For purposes of the ORION-7 programme, Novaris maintained the national registration records and identified Astera Orbital Technologies Ltd. as owner and operator.

ANNEX IV

ORION-7 REGISTRATION RECORDS

National Registry of Space Objects — Republic of Novaris

Programme: ORION-7

Operator: Astera Orbital Technologies Ltd.

Launching State: Republic of Novaris

Operational Classification: Low-Earth-Orbit Communications Satellites

The ORION-7 programme comprised seventy-four satellites, launched between 2026 and 2029 under the authorization of the Republic of Novaris.

By early 2032, twenty-two satellites had reached the end of their commercial operational lives and were designated for controlled disposal.

The national registry identifies each of the twenty-two satellites by individual registration number and records its launch date, orbital parameters, ownership, operational status and proposed disposal status.

For all twenty-two satellites, the Republic of Novaris is identified as the launching State and Astera Orbital Technologies Ltd. is identified as owner and operator.

The registry records were updated in April 2032 to reflect the proposed controlled-disposal campaign.

The approved disposal window was subsequently recorded as 5–17 June 2032.

The registry contains no provision imposing a numerical atmospheric-emission limit or specifying a maximum number of spacecrafts that could undergo atmospheric re-entry during a single operational period.

The records were maintained by the Novarisian Directorate of Space Operations and were made available for regulatory review.

Note: The registration records are included as factual background concerning the identity, registration and launching-State status of the ORION-7 objects. The records do not purport to determine attribution of conduct under the general law of State responsibility.

ANNEX V

ASTERA'S NATIONAL SPACE-OPERATION LICENCE

Republic of Novaris — Directorate of Space Operations

Licence No.: N-SO/2025/184

Licensee: Astera Orbital Technologies Ltd.

Programme: ORION-7

The Directorate of Space Operations issued Astera a national space-operation licence authorizing the operation and eventual disposal of the ORION-7 satellite constellation.

The licence required Astera to comply with applicable Novarisian law and internationally recognized debris-mitigation practices. It imposed operational requirements concerning collision avoidance, orbital lifetime, disposal planning, uncontrolled re-entry risk and the probability of surviving fragments.

Astera was required, where reasonably practicable, to conduct controlled re-entry and maintain appropriate operational records. The licence authorized the competent Novarisian authorities to request technical information and to impose additional conditions concerning safety, security, environmental protection or disposal where circumstances warranted.

At the time the licence was issued, Novarisian law did not prescribe numerical limits on metallic or combustion-product emissions arising from controlled spacecraft re-entry. Nor did it require a separate atmospheric environmental impact assessment for controlled re-entry.

The licence therefore regulated the operational and debris-related risks of ORION-7 but did not establish a specific atmospheric-emission threshold.

Astera remained subject to the continuing supervisory authority of the Directorate throughout the operational life and disposal phase of the ORION-7 programme.

ANNEX VI

ASTERA ORBITAL TECHNOLOGIES LTD.

MINUTES OF THE BOARD OF DIRECTORS' MEETING

Date: 12 April 2032

Subject: Disposal of ORION-7 Satellites

BOARD RISK PAPER — ORION-7 DISPOSAL OPTIONS

The Board considered the following comparative risk matrix as part of its deliberations. The matrix was presented as an internal management assessment and was not a determination of legal responsibility.

Risk / Consideration	Option A — 13 days	Option B — 6 months
Collision / orbital risk	Lower	Higher
Uncontrolled re-entry risk	Lower	Higher for two degraded satellites
Atmospheric concentration	Higher / uncertain	Lower
Direct disposal cost	Baseline	Approximately USD 18 million additional
Operational complexity	Lower	Higher
Scientific uncertainty	Material but unquantified	Lower concentration reduces the concern

The paper recorded that the atmospheric risk was scientifically uncertain, while the orbital-safety risks associated with delaying disposal were considered concrete and operationally significant. The Board nevertheless requested that the decision be taken with the available scientific information and applicable regulatory requirements in mind.

ANNEX VII

ASTERA ORBITAL TECHNOLOGIES LTD.

ENVIRONMENTAL COMPLIANCE MEMORANDUM

Date: 18 March 2032

Prepared by: Environmental Compliance Officer

The memorandum examined emerging scientific literature concerning the atmospheric effects of spacecraft re-entry, particularly the release of metallic particles and combustion products during spacecraft demise.

The memorandum identified a "non-zero possibility of cumulative regional atmospheric effects" where multiple spacecraft underwent concentrated re-entry under particular meteorological conditions.

It noted that the available scientific models were preliminary and that no accepted methodology existed for accurately predicting localized surface-level consequences.

The Compliance Officer nevertheless recommended:

a preliminary atmospheric-impact assessment;

enhanced atmospheric monitoring;

consideration of alternative disposal schedules; and

consultation with relevant scientific specialists before conducting a concentrated campaign.

The memorandum emphasized that scientific uncertainty did not establish that the risk was either significant or negligible.

The document further recorded that a campaign involving twenty-two spacecraft within a relatively short period represented a substantially more concentrated disposal scenario than ordinary individual spacecraft re-entry.

Management subsequently determined that the available evidence was insufficiently mature to justify delaying the disposal campaign.

The memorandum was circulated internally and was available to senior management before the April 2032 Board meeting.

ANNEX VIII

SCIENTIFIC CONSORTIUM MEMORANDUM

Date: February 2032

Status: Technical Memorandum — Preliminary

A cross-institutional scientific consortium examined the potential atmospheric consequences of concentrated spacecraft re-entry.

The memorandum concluded that disposal campaigns involving more than fifteen spacecraft within fourteen days could, under particular meteorological conditions, produce measurable regional atmospheric perturbations.

The study identified metallic particles and combustion products as potential contributors to changes in upper-atmospheric chemistry.

The authors expressly cautioned that the model had not been validated against sufficient observational data and that no reliable quantitative relationship could yet be established between upper-atmospheric deposition and localized surface damage.

The memorandum therefore did not conclude that concentrated re-entry would necessarily produce significant environmental harm.

It nevertheless recommended:

enhanced atmospheric monitoring;

additional scientific assessment before unusually concentrated disposal campaigns;

consideration of alternative disposal schedules; and

preservation of relevant re-entry and atmospheric data.

The memorandum was circulated to participating institutions and was received by Astera's Chief Scientific Officer.

A summary of its findings was subsequently available to officials within the Novarisian regulatory authorities.

The scientific consortium characterized the identified environmental risk as theoretical but potentially measurable, emphasizing that uncertainty concerning magnitude should not be confused with the absence of risk.

ANNEX IX

REPUBLIC OF NOVARIS

DIRECTORATE OF SPACE OPERATIONS

REGULATORY ASSESSMENT — ORION-7

Date: April 2032

The Directorate reviewed Astera Orbital Technologies Ltd.'s application for the controlled disposal of twenty-two ORION-7 satellites.

The assessment considered the proposed re-entry trajectories, orbital-debris risks, collision avoidance, probability of uncontrolled re-entry, surviving fragments and Astera's disposal systems.

The Directorate also reviewed available scientific material concerning possible atmospheric effects from concentrated spacecraft re-entry.

It determined that existing scientific evidence established the possibility of measurable atmospheric deposition but did not establish a sufficiently quantified or predictable risk of significant regional environmental harm.

The Directorate noted that no internationally accepted numerical standard regulated the number of spacecraft that could undergo controlled atmospheric re-entry within a specified period.

It further concluded that Novarisian law did not require a separate atmospheric environmental assessment for the proposed campaign.

The Directorate therefore recommended approval, subject to existing operational, safety and debris-mitigation conditions.

The assessment nevertheless recorded that scientific understanding of atmospheric effects from large-scale spacecraft re-entry remained incomplete and that additional scientific information could be required should circumstances change.

ANNEX X

REPUBLIC OF NOVARIS

DIRECTORATE OF ENVIRONMENTAL AFFAIRS

INTERNAL MEMORANDUM

Date: March 2032

Classification: Internal Regulatory Advice

Subject: Atmospheric Implications of ORION-7 Disposal

The Directorate reviewed emerging scientific literature concerning atmospheric effects associated with concentrated spacecraft re-entry.

It acknowledged that spacecraft demise could introduce metallic particles and combustion products into the upper atmosphere and that, under particular meteorological conditions, such material could be transported across national boundaries.

The Directorate noted, however, that the available scientific models were preliminary and that no validated methodology permitted reliable prediction of localized surface-level consequences.

The memorandum recommended that the Directorate of Space Operations obtain additional scientific information before approving a concentrated disposal campaign.

It further advised that the absence of a validated regional-impact model should not be treated as proof that environmental risk was zero.

The memorandum did not conclude that significant transboundary environmental damage was probable. Instead, it emphasized scientific uncertainty and recommended additional monitoring and assessment.

The recommendations were not adopted as mandatory conditions before approval of the ORION-7 disposal campaign.

The memorandum was retained as an internal regulatory document and subsequently formed part of the materials considered in assessing Novaris's regulatory conduct.

ANNEX XI

NOVARIS DIRECTORATE OF SPACE OPERATIONS

REGULATORY APPROVAL — ORION-7 DISPOSAL CAMPAIGN

Date: 28 April 2032

Applicant: Astera Orbital Technologies Ltd.

The Directorate of Space Operations hereby approved Astera's proposed controlled disposal campaign involving twenty-two ORION-7 satellites.

The Directorate reviewed the submitted disposal plans, orbital trajectories, collision-avoidance measures, spacecraft condition reports and anticipated re-entry profiles. It also considered the available scientific material concerning atmospheric effects associated with concentrated spacecraft re-entry.

The Directorate determined that the proposed campaign complied with the applicable Novarisian regulatory framework and existing debris-mitigation requirements.

The approval was subject to the following conditions:

1. controlled re-entry procedures were to be followed;
2. Astera was to maintain operational and telemetry records;
3. uncontrolled re-entry risk was to be minimized;
4. relevant incidents were to be reported to the Directorate; and
5. Astera was to comply with any additional safety direction issued during the campaign.

The Directorate did **not** require a separate atmospheric environmental impact assessment.

It further noted that available scientific evidence concerning cumulative atmospheric effects remained preliminary and that no internationally accepted numerical threshold regulated concentrated spacecraft re-entry.

The approval did not expressly assess the potential transboundary environmental consequences of the campaign.

ANNEX XII

ASTERA–NOVARIS OPERATIONAL AGREEMENT

AND INDEMNITY PROVISIONS

Parties: Republic of Novaris and Astera Orbital Technologies Ltd.

Subject: Operation and Disposal of ORION-7

The Operational Agreement governed Astera's operation and eventual disposal of the ORION-7 satellite constellation.

Astera retained responsibility for day-to-day operational activities, including spacecraft control, disposal manoeuvres, telemetry maintenance and compliance with technical requirements.

Novaris retained its statutory powers of authorization, continuing supervision and regulatory enforcement in relation to the programme.

Astera agreed to indemnify Novaris against specified contractual and third-party claims arising from Astera's operation of the ORION-7 satellites, subject to the limitations and conditions contained in the Agreement.

The indemnity provision concerned the allocation of financial risk between the contracting parties and did not purport to determine responsibility under international law.

The Agreement required Astera to preserve operational records and provide technical information reasonably requested by Novarisian authorities.

The Agreement further recognized Novaris's authority to require additional safety or operational measures where circumstances warranted.

Nothing in the Agreement expressly transferred Novaris's international obligations under the Outer Space Treaty or the Liability Convention to Astera.

ANNEX XIII

ASTERA ORBITAL TECHNOLOGIES LTD.

SPACE-INSURANCE POLICY

Insured: Astera Orbital Technologies Ltd.

Subject: ORION-7 Satellite Programme

The policy provided insurance coverage for specified physical damage involving the ORION-7 spacecraft and certain third-party claims arising from covered space operations.

Coverage was subject to policy limits, deductibles and exclusions.

Environmental Exclusion

The policy expressly excluded claims based solely upon:

1. gradual pollution;
2. atmospheric contamination;
3. environmental alteration; or
4. long-term ecological consequences,

unless the claim also involved qualifying direct physical damage covered under the policy.

The exclusion was included in the policy applicable during the June 2032 disposal campaign.

The policy therefore did not provide comprehensive indemnification for claims based exclusively upon atmospheric contamination or environmental degradation alleged to have resulted from spacecraft re-entry.

Astera notified its insurer following the environmental allegations raised by Arkania.

The insurer subsequently indicated that the environmental exclusion might apply to claims based solely upon atmospheric effects, while reserving its position concerning any claim involving direct physical damage.

The insurance arrangement was contractual and private in nature and did not purport to determine the international legal responsibility of Novaris.

ANNEX XIV

ARKANIA NATIONAL ATMOSPHERIC MONITORING AGENCY

ATMOSPHERIC MONITORING REPORT

Monitoring Period: 1 May–30 June 2032

Region: Eastern Arkania

The National Atmospheric Monitoring Agency recorded abnormal concentrations of several metallic and combustion-related substances at monitoring stations across eastern Arkania during June 2032.

Following the principal ORION-7 re-entry period, monitoring stations recorded elevated concentrations of **aluminium, lithium, copper, iron and nitrogen oxides** when compared with established seasonal baselines.

The highest concentrations were recorded in eastern inland districts. Lower but measurable elevations were recorded at certain coastal monitoring stations.

The Agency identified a temporal association between the abnormal measurements and the ORION-7 disposal campaign.

However, the monitoring data did not independently establish the proportion of atmospheric material attributable to ORION-7.

The Agency identified several potential sources, including:

- spacecraft re-entry;
- industrial emissions;
- regional atmospheric transport; and
- existing background pollution.

The Agency therefore recommended that the concentration data be assessed together with meteorological observations, atmospheric trajectory modelling and historical industrial-emissions records.

The monitoring report concluded that the June 2032 atmospheric observations represented a significant departure from ordinary seasonal conditions but did not, standing alone, establish legal causation.

ANNEX XV

METEOROLOGICAL AND ATMOSPHERIC TRANSPORT DATA

Period Examined: 5–19 June 2032

Source: Arkanian Meteorological and Atmospheric Research Service

Meteorological observations recorded an unusual upper-atmospheric wind pattern during and immediately following the principal ORION-7 re-entry period.

Atmospheric trajectory modelling indicated that material released during the controlled re-entry campaign could have been transported from the relevant re-entry corridors toward eastern Arkania.

The strongest modelled transport pathway coincided with the period preceding abnormal rainfall recorded approximately forty-eight hours after the final scheduled ORION-7 re-entry.

The data therefore establish a **plausible atmospheric transport pathway** between the re-entry region and eastern Arkania.

The modelling also indicated that atmospheric material could have undergone substantial dispersion before reaching lower atmospheric levels.

The report expressly cautioned that trajectory modelling alone could not establish the chemical composition, concentration or environmental significance of material reaching the surface.

It further noted that eastern Arkania was already affected by persistent industrial emissions capable of contributing to atmospheric acidification.

Accordingly, the meteorological evidence supports temporal and geographic consistency between ORION-7 re-entry and the observed atmospheric anomalies, but does not independently establish that ORION-7 was the principal or exclusive cause of the alleged environmental damage.

ANNEX XVI

REPORT OF THE ARKANIAN INDEPENDENT SCIENTIFIC ASSESSMENT COMMITTEE

Date: September 2032

Committee: Independent Scientific Assessment Committee of Arkania

The Committee examined the atmospheric and environmental effects observed in eastern Arkania following the ORION-7 disposal campaign.

The Committee comprised atmospheric scientists, chemists, meteorologists and environmental specialists from Arkania and foreign academic institutions.

Principal Findings

The Committee determined that:

1. the twenty-two ORION-7 spacecraft introduced measurable metallic and combustion-related material into the upper atmosphere;
2. the timing of atmospheric deposition was consistent with the June 2032 re-entry campaign;
3. meteorological conditions provided a plausible transport pathway toward eastern Arkania;
4. certain deposited substances were chemically capable of interacting with existing atmospheric pollutants; and
5. atmospheric conditions following the campaign departed materially from established seasonal patterns.

The Committee concluded that ORION-7 was **more likely than not a material contributing factor** to the observed atmospheric acidification and associated environmental effects.

The Committee nevertheless acknowledged that the available evidence did not permit precise quantification of ORION-7's contribution.

It further recognized that long-standing industrial emissions in eastern Arkania constituted a substantial concurrent source of atmospheric pollutants.

The Committee therefore characterized ORION-7 as a **material contributing factor rather than an exclusive cause** of the alleged environmental damage.

ANNEX XVII

REPORT OF THE NOVARISIAN INTERNATIONAL SCIENTIFIC PANEL

Date: October 2032

Panel: International Scientific Panel constituted by Novaris

The Panel reviewed the available atmospheric, meteorological and industrial-emissions data concerning the ORION-7 disposal campaign and the environmental effects alleged by Arkania.

The Panel comprised aerospace engineers, atmospheric scientists, chemists and meteorologists from six States.

The Panel accepted that spacecraft re-entry introduced measurable metallic particles and combustion products into the upper atmosphere.

However, it concluded that the available evidence did not establish a reliable causal relationship between ORION-7 re-entry and the localized acidification observed in eastern Arkania.

The Panel found that:

- atmospheric material dispersed rapidly at altitude;
- the available models could not reliably quantify the amount reaching the surface;
- long-standing industrial emissions represented a substantial existing source of acid-forming pollutants; and
- temporal association alone could not establish causation.

The Panel therefore concluded that any contribution from ORION-7 was **likely small relative to terrestrial sources**.

The Panel acknowledged that earlier scientific literature had identified a theoretical possibility of atmospheric effects from concentrated spacecraft re-entry.

It nevertheless distinguished the existence of a theoretical risk from proof that the ORION-7 campaign caused the environmental damage alleged by Arkania.

ANNEX XVIII

ARKANIAN INDUSTRIAL EMISSIONS DATA

PRECEDING FIFTEEN YEARS

Monitoring Period: 2017–2031

Region: Eastern Arkania

The Arkanian National Atmospheric Monitoring Agency maintained records of industrial emissions from thermal power generation, metal-processing facilities, chemical manufacturing and other major industrial sources in eastern Arkania.

The fifteen-year dataset demonstrates persistent emissions of **sulphur dioxide (SO_2), nitrogen oxides (NOx), particulate matter and other acid-forming pollutants** throughout the period preceding the ORION-7 campaign.

Several major industrial facilities exceeded applicable national emissions standards during multiple reporting years.

A government pollution-control programme initiated before 2032 remained incomplete at the time of the June 2032 atmospheric event.

The historical data demonstrate that eastern Arkania possessed a substantial pre-existing pollution burden and was susceptible to atmospheric acidification before the ORION-7 re-entries.

The data also show that certain emissions levels increased during some years immediately preceding 2032.

However, the historical record does not establish that industrial emissions alone caused the specific atmospheric anomaly observed in June 2032.

Similarly, the dataset does not exclude the possibility that an additional external source contributed to the observed environmental effects.

The data are therefore relied upon by Novaris as evidence of **concurrent and substantial terrestrial causation**, while Arkania maintains that they do not exclude an incremental contribution from ORION-7.

ANNEX XIX

ASTERA TELEMETRY-DISCLOSURE CORRESPONDENCE

Period: June–August 2032

Parties: Arkanian authorities and Astera Orbital Technologies Ltd.

Following the June 2032 atmospheric event, Arkanian authorities requested technical information concerning the ORION-7 disposal campaign.

The requests included:

1. complete spacecraft telemetry;
2. spacecraft material-composition records;
3. re-entry trajectories and burn-up calculations;
4. atmospheric dispersion modelling;
5. environmental assessments; and
6. records concerning disposal planning and authorization.

Astera supplied selected operational and technical material but withheld certain documents, citing commercial confidentiality, proprietary technology and incomplete telemetry.

Astera informed Arkanian authorities that telemetry relating to **five ORION-7 satellites had been compromised or lost** following a cyber incident in May 2032.

Arkania subsequently requested clarification concerning the missing data and argued that the absence of complete telemetry impaired scientific attribution of atmospheric effects.

Astera maintained that it had cooperated to the extent reasonably possible and that the missing records resulted from an external cyber incident of unknown origin.

Novaris was subsequently provided with copies of the correspondence.

Arkania contended that the incomplete records were relevant to assessing the adequacy of Astera's monitoring and Novaris's continuing supervision.

Novaris maintained that missing privately held telemetry could not, by itself, establish a breach of international law.

ANNEX XX

RECORDS CONCERNING THE MAY 2032 CYBER INCIDENT

Date of Incident: May 2032

Affected Assets: Telemetry systems associated with five ORION-7 satellites

In May 2032, Astera Orbital Technologies Ltd. detected unauthorized access to systems supporting the storage and transmission of ORION-7 telemetry.

The incident resulted in the loss or corruption of portions of historical telemetry relating to five satellites scheduled for controlled disposal.

Astera initiated an internal investigation and notified the competent Novarisian authorities.

Available forensic records establish unauthorized access but do not conclusively identify the individual, organization or State responsible for the intrusion.

Recovery efforts restored certain operational records, but portions of historical telemetry remained unavailable.

There is no evidence presently establishing that Novaris directed, participated in or caused the cyber incident.

The incident nevertheless became relevant to the subsequent environmental dispute because the missing telemetry included information concerning spacecraft condition, re-entry parameters and atmospheric modelling.

Arkanian authorities argued that the loss of telemetry impaired the ability to determine the precise quantity and composition of material released during re-entry.

They further questioned whether adequate data-preservation and contingency requirements should have been imposed by Novaris as part of its supervisory responsibilities.

Novaris responded that the cyber incident was attributable to an unidentified third party and occurred before the environmental dispute arose.

ANNEX XXI

NOVARISIAN LEGISLATIVE AMENDMENT — NOVEMBER 2032

Space Activities and Environmental Responsibility (Amendment) Act, 2032

The Republic of Novaris enacted amendments to its space-activities regulatory framework in November 2032 following increased scientific and governmental attention to the environmental consequences of concentrated spacecraft re-entry.

The amendments introduced additional requirements applicable to large-scale re-entry campaigns, including:

1. environmental review for campaigns exceeding prescribed concentration thresholds;
2. consideration of cumulative atmospheric effects;
3. environmental and operational monitoring;
4. preservation of telemetry and relevant environmental records; and
5. consideration of potential transboundary environmental effects.

The amended framework further authorized the competent regulatory authority to require additional scientific assessments where emerging evidence indicated a potential environmental risk.

The legislative record recognized that scientific understanding of spacecraft re-entry effects had developed significantly and that existing regulatory standards did not previously provide specific criteria for assessing cumulative atmospheric impacts.

The amendments were expressly stated to operate prospectively.

The Act further provided that its enactment did not constitute an admission that previous activities had violated Novarisian domestic law or international obligations.

Novaris relied upon the prospective character of the legislation as evidence that the regulatory framework applicable in April–June 2032 differed materially from the framework subsequently adopted.

Arkania relied upon the amendments as evidence that the risks addressed by the new framework were sufficiently foreseeable to warrant preventive measures before June 2032.

ANNEX XXII

REPUBLIC OF ARKANIA

DIPLOMATIC NOTE

Date: 4 October 2032

Subject: ORION-7 Atmospheric and Environmental Effects

The Government of Arkania formally requested consultations with the Government of Novaris concerning the environmental effects allegedly associated with the ORION-7 controlled re-entry campaign.

Arkania asserted that the twenty-two spacecraft re-entered during a concentrated period and introduced metallic and combustion-related material into the atmosphere.

Arkania contended that the available scientific and meteorological evidence established a sufficient connection between the ORION-7 campaign and the atmospheric abnormalities subsequently observed in eastern Arkania.

The Note alleged that Novaris had failed to:

1. exercise adequate authorization and continuing supervision;
2. undertake appropriate environmental assessment;
3. take reasonable preventive measures despite available scientific warnings;
4. provide adequate information concerning the scale and timing of the disposal campaign; and
5. consult with Arkania concerning potentially harmful transboundary effects.

Arkania further invoked the Liability Convention and maintained that the alleged environmental consequences constituted compensable damage.

The Note acknowledged the existence of substantial pre-existing industrial pollution within eastern Arkania but maintained that concurrent pollution did not exclude an additional material contribution from ORION-7.

Arkania requested consultations concerning responsibility, compensation, environmental monitoring and appropriate remedial measures.

The Note expressly reserved all rights and claims under international law.

ANNEX XXIII

REPUBLIC OF NOVARIS

DIPLOMATIC RESPONSE

Date: October 2032

Subject: Response to Arkania's Diplomatic Note of 4 October 2032

The Government of Novaris acknowledged Arkania's allegations but rejected the assertion that the ORION-7 campaign constituted a breach of international law or that Novaris was responsible for the environmental effects alleged.

Novaris maintained that:

1. the Liability Convention did not establish absolute liability for the indirect atmospheric effects alleged by Arkania;
2. the scientific evidence did not establish sufficient causal connection between ORION-7 and the alleged environmental damage;
3. eastern Arkania had experienced substantial industrial emissions for many years before the ORION-7 campaign;
4. Astera's private operational conduct could not automatically be attributed to Novaris;
5. Novaris had authorized and supervised the campaign in accordance with the applicable domestic regulatory framework; and
6. no sufficiently established international rule required the particular atmospheric environmental assessment proposed by Arkania in 2032.

Novaris further rejected the proposition that the November 2032 legislative amendment constituted evidence of a prior breach, emphasizing that the amendment operated prospectively.

Nevertheless, Novaris agreed to continue discussions concerning scientific information exchange, environmental monitoring, preservation of relevant records and future preventive procedures.

The diplomatic exchange did not result in agreement concerning responsibility, causation or compensation.

ANNEX XXIV

SPECIAL AGREEMENT

THE REPUBLIC OF ARKANIA

AND

THE REPUBLIC OF NOVARIS

SUBMISSION OF THE DISPUTE CONCERNING THE ORION-7 SPACECRAFT DISPOSAL CAMPAIGN TO THE INTERNATIONAL COURT OF JUSTICE

PREAMBLE

The Republic of Arkania and the Republic of Novaris,

Considering that a dispute has arisen between them concerning the interpretation and application of international law in relation to the ORION-7 controlled atmospheric re-entry campaign; Recognizing that diplomatic exchanges between the Parties have not resulted in a settlement of the dispute;

Desiring to submit the dispute to the International Court of Justice for determination; Recalling their obligations under the Charter of the United Nations;

Have agreed as follows:

ARTICLE 1- SUBMISSION OF THE DISPUTE

The Parties hereby submit to the International Court of Justice, pursuant to Article 36, paragraph 1, of the Statute of the Court, the dispute concerning the legal consequences arising from the ORION-7 spacecraft disposal campaign conducted between 5 and 17 June 2032.

ARTICLE 2 - SUBJECT MATTER OF THE DISPUTE

The dispute concerns, in particular:

The applicability and interpretation of the Convention on International Liability for Damage Caused by Space Objects; the interpretation and application of Article VI of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space; the

obligations of States concerning authorization and continuing supervision of non-governmental space activities; obligations concerning prevention of significant transboundary environmental harm; the applicability and content of the precautionary principle; the obligation, if any, to undertake an environmental impact assessment before authorizing large-scale spacecraft re-entry; the legal significance of scientific uncertainty; the causal relationship between the ORION-7 re-entry campaign and the environmental effects alleged by Arkania; and the appropriate consequences and remedies, if any, arising from the Court's determination.

ARTICLE 3 - QUESTIONS TO BE DETERMINED

The Parties agree that the Court is requested to determine:

Question 1

Whether the environmental effects alleged by the Republic of Arkania constitute "damage" within the meaning of the Liability Convention.

Question 2

Whether the Republic of Novaris complied with its obligations under Article VI of the Outer Space Treaty concerning authorization and continuing supervision of Astera Orbital Technologies Ltd.

Question 3

Whether Novaris breached any applicable obligation under international law concerning the prevention of significant transboundary environmental harm.

Question 4

Whether, having regard to the scientific information available before June 2032, Novaris was required under international law to undertake or require a prior environmental impact assessment in relation to the ORION-7 disposal campaign.

Question 5

Whether the precautionary principle forms part of the applicable international legal framework governing the conduct at issue and, if so, what legal consequences follow from its application.

Question 6

Whether the environmental damage alleged by Arkania is sufficiently causally connected to the ORION-7 campaign for the purposes of any applicable rule of international responsibility or liability.

Question 7

If Novaris is found internationally responsible or liable, what form and extent of reparation is appropriate.

ARTICLE 4- FACTUAL RECORD

For purposes of the proceedings, the Parties agree that the factual record shall include the documents identified in the Annexes to this Special Agreement.

The Annexes shall form part of the evidentiary record without prejudice to the right of either Party to challenge:

(a) their interpretation;

(b) their evidentiary weight;

(c) scientific conclusions contained therein; or

(d) the legal consequences to be drawn from them.

ARTICLE 5 - SCIENTIFIC EVIDENCE

The Parties acknowledge that their respective scientific assessments differ concerning the causal significance of the ORION-7 campaign.

Nothing in this Special Agreement shall be construed as an agreement concerning:

the percentage contribution of ORION-7 to the alleged environmental damage;

the sufficiency of the available scientific methodology;

the significance of pre-existing industrial pollution; or

the ultimate existence of legal causation.

ARTICLE 6 - JURISDICTION

The Parties agree that the Special Agreement constitutes their consent to the jurisdiction of the International Court of Justice in respect of the dispute defined herein.

For avoidance of doubt, nothing in the Special Agreement shall be read as stipulating that Article IX of the Outer Space Treaty itself creates a general environmental consultation obligation. The scope of any consultation obligation remains a matter for the Court to determine under the applicable treaty provisions and general international law.

Neither Party shall challenge the jurisdiction of the Court on the ground that no separate unilateral declaration of optional-clause jurisdiction exists between the Parties.

ARTICLE 7 - APPLICABLE LAW

The Court shall apply:

international treaties applicable between the Parties;

applicable rules of customary international law;

general principles of law recognized in accordance with Article 38 of the Statute of the Court; and

such other sources as the Court are authorized to consider under its Statute.

Nothing in this Article shall require the Court to apply domestic law as a rule of international responsibility, except insofar as domestic law is relevant to establishing facts or the conduct of the Parties.

ARTICLE 8 - DOMESTIC LAW

The Parties agree that domestic authorization, licensing and regulatory measures may be considered by the Court insofar as they are relevant to determining:

(a) the conduct of the Parties;

(b) the scope of authorization and supervision;

(c) the factual circumstances of the ORION-7 campaign; and

(d) the Parties' respective knowledge and conduct.

Domestic law shall not, by itself, determine the existence or absence of an international obligation.

ARTICLE 9 - INTERIM MEASURES

Nothing in this Special Agreement shall prejudice the right of either Party to request provisional measures in accordance with the Statute and Rules of Court.

ARTICLE 10 - REPARATION

Where the Court determines that an internationally wrongful act or applicable international liability has been established, the Court shall determine the appropriate legal consequences.

The Parties reserve their respective positions concerning:

- compensation;
- restitution;
- satisfaction;
- guarantees of non-repetition;
- environmental monitoring;
- remediation;
- scientific cooperation; and
- other appropriate forms of reparation.

ARTICLE 11 - PRESERVATION OF EVIDENCE

Each Party undertakes to preserve documents, scientific records, telemetry, regulatory records, environmental data and other relevant material in its possession, custody or control relating to the ORION-7 campaign.

The Parties shall cooperate, subject to applicable law and legitimate confidentiality requirements, in facilitating the production of relevant evidentiary material before the Court.

ARTICLE 12 - LANGUAGE

The proceedings may be conducted in English.

The Parties shall provide certified translations of documents where required by the Court.

ARTICLE 13 - ENTRY INTO FORCE

This Special Agreement shall enter into force upon signature by the duly authorized representatives of both Parties.

ARTICLE 14 - REGISTRATION

The Parties shall jointly notify the Registrar of the International Court of Justice of this Special Agreement and shall transmit the Agreement to the Secretary-General of the United Nations in accordance with applicable procedures.

ARTICLE 15 - FINALITY

The Parties undertake to accept the judgment of the International Court of Justice as final and binding upon them in accordance with Article 59 of the Statute of the Court.

ARTICLE 16 - AUTHENTIC TEXT

This Special Agreement is executed in two originals, each being equally authentic.

DONE AT THE HAGUE

Date: 18 January 2033

For the **Republic of Arkania**

Dr. Elena Var

Minister for Foreign Affairs

Signature: _____

Official Seal

For the **Republic of Novaris**

Mara Veylan

Minister for Foreign Affairs

Signature: _____

Official Seal