



THE 2018 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

INTERNATIONAL COURT OF JUSTICE

**Case Concerning Conflicting Activities in Outer Space,
Planetary Protection, and Outer Space Security**

THE DEMOCRATIC REPUBLIC OF NEAPILIA

(APPLICANT)

V.

THE REPUBLIC OF KALVION

(RESPONDENT)

AGREED STATEMENT OF FACTS



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CASE CONCERNING CONFLICTING ACTIVITIES IN OUTER SPACE, PLANETARY PROTECTION AND OUTER SPACE SECURITY

Agreed Statement of Facts:

1. The Democratic Republic of Neapilia is a developed country. Until recently, its national oil and natural gas reserves have been contributing to the country's economic stability and consistent growth. Neapilia's strong economy has enabled it to invest significantly in space activities and related technologies. Within the domain of space exploration and planetary science, Neapilia has particularly focused on the creation of a human settlement on Mars.
2. Following a series of successful robotic missions on the surface of Mars, in 2040 the Neapilian Space Agency (NSA) launched a Civil Space Station orbiting Mars (known as 'TheosAres') and registered it in the Neapilian national register of objects launched into outer space.
3. The Republic of Kalvion is a former developing country, the economy of which has experienced massive growth since 2025. Such growth has been accompanied by the development of space activities, both civil and military. However, Kalvion lacks domestic non-renewable energy resources and traditionally has relied on imported oil and gas in order to sustain its economic growth. As a consequence, it has suffered longer and more severely than other States from the depletion of Earth's non-renewable natural resources, and has been forced to look for alternative sources of energy.
4. By 2045 the global population of Earth exceeded 9.2 billion and the United Nations (UN) forecast that renewable energy sources will not meet mankind's growing needs for long. Damage to Earth's environment over many decades from over-population and global warming has progressively made the environment less hospitable to agriculture. Lack of resources has triggered massive migrations and social unrest in several countries. The Food and Agriculture Organization has been preparing the world



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community for a food crisis in response to clear signs that Earth's natural reserves have reached critical levels.

5. Since 2035, UN Member States have been discussing possible collective solutions. However, no agreement has been reached and some States have started to look for alternative separate solutions.
6. Neapilia is one of the countries most affected by the crisis, which is exemplified by an ongoing housing crisis brought on by the population explosion within its small territory, spawning widespread social rioting since 2030. Neapilia can no longer rely on its energy surplus to fully fund new outer space programmes as it is now struggling to meet the needs of its own population.
7. In this regard, Neapilia's government issued a national space policy act stating, among other things, that exploitation of outer space could help overcome current global and national overpopulation and Earth resources crisis and invited the private sector to submit proposals for space-based solutions.
8. Salus Patriae ad Astra Corporation (SalPA Corp.) was a powerful private Neapilian company with an historical interest in innovative technology, in particular, in the field of outer space exploration and use. SalPA Corp. developed an ambitious proposal – to make Martian water resources accessible to humans. Mars has long been considered as the first potential destination for human resettlement, due to its surface conditions and the existence of water deposits at its poles and subsurface. Despite an average temperature on Mars of approximately -85°F (-65 °C), it is still considered to be the only available hospitable celestial body in the Solar system (besides our planet), considering its proximity to Earth and its accessibility given the existing level of Neapilia's propulsion technology.
9. In June 2046, SalPA Corp. proposed a new invention called OptronRay, comprised of a pair of mirrors designed to orbit the poles of Mars and reflect the heat of the Sun, causing the existing CO₂ ice cap (dry ice layer) to sublimate leading to the warming of the planet's surface. SalPA Corp. envisioned that this would melt the water ice and irrigate a large area of the planet, thereby contributing to the creation of necessary conditions for a human settlement on Mars.



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10. The first stage of the OptronRay operation as announced by SalPA Corp. was a Technology Trial, during which:
 - i. TheosAres would be used as a base of space operations;
 - ii. Two OptronRay mirrors would be deployed in orbit from TheosAres over the poles of Mars (by 2052), separated by 180° in order to heat alternatively as they pass the north and south poles of the planet.
 - iii. Astronauts on board TheosAres would practice manoeuvres with the mirrors and monitor the impact on heat reflection on the CO₂ ice cap and the underlying water ice layer at the poles of Mars. The results of the Technology Trial were to be reported by the end of 2053.
 - iv. SalPA Corp. would concurrently develop a prototype of Habitable Atmospheric Modules (HAMs) which could sustain life and autonomous farming in the adapted atmospheric conditions and wetlands areas of Mars.
11. Subject to successful testing, SalPA Corp. anticipated the production of a series of larger OptronRay mirrors with the first deployments planned for 2060, with as many as 50 OptronRay mirrors operational by 2070 (the so-called '50 Rays of SalPA'). The OptronRay mirrors had been projected to warm the atmosphere of Mars sufficiently to enable the first HAMs to be deployed by 2063, at which time sufficient quantities of liquid water would be liberated on the surface.
12. All the technologies were to be designed and manufactured by SalPA Corp., which held the international patents protecting its exclusivity in the manufacturing of orbital mirrors and the early technology conceived in connection with the HAMs. No other equivalent technology exists elsewhere.
13. After the creation of supporting infrastructure, SalPA Corp. allowed public and private investors from around the world to purchase a license to use HAMs directly from SalPA Corp. in order to establish autonomous settlements on Mars. The license fees would more than recover the costs of the technology development and deployment of the orbital mirrors.



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14. Neapilia's government immediately backed up SalPA Corp.'s OptronRay operation and HAM's development by investing public funds and taking a 49% equity stake in the company. Under its national space law, Neapilia authorised SalPA Corp. to carry out the Technology Trial and to use TheosAres and its crew for this purpose.
15. When the first mission to TheosAres launched in February 2050, Neapilia immediately included it in the Neapilian national registry and informed the UN Secretary General about the launch of a space vehicle owned and operated by SalPA Corp., declaring the generic purpose of the mission as a 'peaceful space exploration mission to Mars'.
16. In 2040, Kalvion, facing its own energy resources problem, decided to develop a large space programme with the aim of finding natural resources on other celestial bodies of the Solar system for the purposes of their extraction and exploitation. After the exploration phase's completion in 2045, Kalvion chose Mars as the most suitable planet to start mining operations. In the same year Kalvion authorised, under its national law, SIENAR Industries (SIENAR), a multinational company established in Kalvion and specialising in cutting edge space and mining technology to exploit any space resources they might obtain on Mars.
17. In 2048 SIENAR launched a series of spacecraft carrying Unmanned Mining Vehicles (UMVs) from Kalvion's territory deploying the UMVs directly to Mars. The UMVs developed by SIENAR were equipped with nuclear power generators, to provide for a very long operational lifetime. By the end of 2049, the mining activities became fully operational and started to provide Kalvionian cargo spaceships returning to Earth with the necessary space resources.
18. In March 2051, SIENAR deployed the second generation of nuclear-powered UMVs on Mars (UMVs Mk2) with augmented mining capacity. Concurrently, SIENAR launched a scanning satellite, named "Aeneas-1", into polar orbit around Mars, in order to derive maximum benefit from the new UMV Mk2 technology. Aeneas-1 was designed to reveal high concentrations of Mars' resources and to remotely control UMVs Mk2 operations. Upon commencement of operation the "Aeneas-UMV Mk2" system proved its capability to provide Kalvion with a long-term viable solution for the domestic non-renewable natural resources substitution.



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19. In November 2052, SalPA Corp. started the Technology Trial and deployed OptronRay mirrors in polar orbit around Mars. Astronauts on board TheosAres carried out practical manoeuvres with the mirrors and tested their effectiveness. This initial success prompted the NSA to issue an international press release describing the specific nature of the '50 Rays of SalPA' programme and inviting all nations to take advantage of the solution pioneered by SalPA Corp. 'for the benefit of Humankind'. In particular, public and private entities from all nations were invited to pre-order HAMs from SalPA Corp/ in advance of the full-scale deployment of the '50 Rays of SalPA'.
20. It was soon clear that 'the 50 Rays of SalPA' programme was very popular and SalPA Corp. was approached by a number of States and high net-worth individuals willing to purchase HAMs 'subject to successful demonstration of the first OptronRay mirrors during the Technology Trial'.
21. Kalvion's government was deeply troubled by NSA's announcement. SIENAR's UMVs and new UMV Mk2 specifically were designed to operate in Mars' natural environment. The '50 Rays of SalPA' programme, if successful, would trigger a series of modifications in the temperature of the surface of Mars, in the composition of its atmosphere and in the atmospheric pressure, with the result that SIENAR's technologies would no longer be fit for their primary mission and the delivery of space resources to Kalvion would have to eventually cease.
22. A large number of developing States were also alarmed by NSA's announcement. Some of them had very high population density and concurrent land shortages but did not have the sufficient budgets to obtain HAMs from SalPA Corp. and establish their own settlements on Mars. In the meantime, they worried that developed States and wealthy individuals would crowd all the 'best places' on Mars with their own HAMs.
23. In March 2053, Kalvion formally contacted Neapilia and requested the cessation of SalPA Corp.'s OptronRay Technology Trial specifying the consequences of such space activities for Kalvion's space mining programme. In March 2054, an official response from the Neapilian Minister of Commerce invited Kalvion to enter into a HAMs' purchase agreement with SalPA Corp.



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24. Meanwhile, the communication between Kalvion's Aeneas-1 and the UMVs Mk2 on the surface of Mars was lost despite the repeated efforts of SIENAR's technicians to restore it. Kalvion called an independent body of experts to investigate the problem, which concluded that the interruption of communication was due to the disturbances in the atmosphere and temperature conditions of Mars, possibly caused by the deployment of the OptronRay mirrors by SalPA Corp. The cessation of communication between Aeneas-1 and the UMVs Mk2 led to the termination of their mining activity on the surface of Mars.
25. Kalvion spearheaded a meeting of Heads of States for developing and developed nations who opposed the '50 Rays of SalPA' programme. The meeting, which took place in the Seychelles on 10 September 2054, was attended by Heads of States collectively representing nearly 9/10 of the Earth's population. The meeting culminated in the adoption of the 'Seychelles Declaration', which expressly stated that the environmental conditions of Mars should remain unaltered until international consensus and a multilateral agreement is reached on a specific regime of the exploitation and allocation of Mars' natural resources.
26. In reliance on the Seychelles Declaration, in November 2054 Kalvion formally requested the UN Security Council to condemn the acts of environmental intervention on Mars as constituting 'a threat to international peace and security' and to adopt appropriate measures in conformity with the UN Charter should Neapilia not cease such activities.
27. After a contentious meeting, with expression of conflicting views, the UN Security Council unanimously adopted a Resolution on 13 November 2054, which 'expressed concern' about 'the situation on Mars' and 'urged' Neapilia, while undertaking Mars exploration activities, 'to abide or comply with the principles enshrined in the treaties on outer space and, in particular, in the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967) and international space law and to take into consideration the rights and duties of other States in accordance with international law'.
28. In response to the above decision of the UN Security Council, in August 2055, the Prime Minister of Neapilia declared that the Mars operations are conducted with 'the noblest



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intentions' of his country 'for the welfare of all Humankind', that this process could not be reversed as it would be 'a disaster for Neapilia and all Humankind', and finally that Neapilia would keep the Security Council informed about the evolution of the Mars environmental intervention.

29. Following the UN Security Council's failure to stop SalPA Corp.'s '50 Rays' programme, Kalvion declared in a public statement its decision to adopt 'protection measures' if Neapilia would not cease immediately its intervention on Mars. Neapilia did not formally respond to this statement.
30. On 5 January 2056, TheosAres' personnel observed the two OptronRay mirrors orbiting Mars gradually beginning to change their angle by 3° per day. In-depth investigations showed that OptronRay's control system had been overtaken by a remote electronic interference from an unknown source outside the station.
31. The TheosAres staff was not able to restore control of the orbital mirrors, which had changed their angle by 30° within 10 days. The new positioning of the mirrors led the process of heating the Mars' poles to an unexpected end. Due to high scale of command interference, the system was irrevocably 'locked', requiring the installation of an entirely new control system.
32. SalPA Corp announced that it was unable to continue the '50 Rays' programme, which would be suspended indefinitely. All pending orders and contracts for HAMs were cancelled because the orbital mirror technology could not be demonstrated to the satisfaction of clients before the Technology Trial was suspended. SalPA Corp. thereafter filed for bankruptcy and was liquidated.
33. On 17 January 2056, the Kalvionian Minister of Foreign Affairs revealed that the interference with the OptronRay control system had been undertaken by cyber experts from Kalvion. He further stated that 'these lawful countermeasures would be maintained pending a declaration of the authorities of Neapilia that the '50 Rays' programme would be definitely abandoned'. Neapilia severely protested against the aforementioned declarations, nevertheless without producing any result whatsoever.
34. In an attempt to settle their disputes, Neapilia and Kalvion entered into diplomatic consultations, the results of which proved inconclusive. Neapilia initiated these



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proceedings by Application to the International Court of Justice. Kalvion accepted the jurisdiction of the Court and the parties submitted this Agreed Statement of Facts.

35. Neapilia requests the Court to adjudge and declare that:

1. Kalvion's actions constituted an unlawful cyber-attack against Neapilia, contrary to international law and to the peaceful uses of outer space;
2. Kalvion is liable for the total loss of the "50 Rays" programme and for all consequential damages, loss of profit and liquidation of SalPA Corp.'s; and
3. Neapilia is not liable for the cessation of Kalvion's mining activities on Mars.

36. Kalvion requests the Court to adjudge and declare that:

1. Kalvion's action preventing the operations of the OptronRay orbital mirrors was a lawful, non-aggressive, necessary act to defend its access to space resources and to ensure the protection of Mars' environment;
2. Kalvion is not liable for any damage relating to the interruption of the "50 Rays" programme nor for any consequence on SalPA Corp.'s; and
3. Neapilia is liable for the cessation of Kalvion's mining activities on Mars.

37. Both Neapilia and Kalvion are Parties to the UN Charter and the five treaties on outer space. Within the time frame of the case, no international exploitation regime has been established on Mars pursuant to Article 11 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979). There is no issue of jurisdiction before the International Court of Justice.