



THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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INTERNATIONAL COURT OF JUSTICE

**SPECIAL AGREEMENT**

BETWEEN

**THE AKERAN FEDERATION**  
(APPLICANT)

AND

**THE COMONWEALTH OF MHENI**  
(RESPONDENT)

JOINTLY NOTIFIED TO THE COURT

COUR INTERNATIONALE DE JUSTICE

**COMPROMIS**

ENTRE

**LA FÉDÉRATION DE AKERA**  
(REQUÉRANT)

ET

**LA COMMONWEALTH DE MHENI**  
(RÉPONDANT)

NOTIFIÉ CONJOINTEMENT À LA COUR



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### CASE CONCERNING SATELLITE ELECTROMAGNETIC INTERFERENCE

#### Statement of Agreed Facts:

1. The Akeran Federation (Akeran) and the Commonwealth of Mheni (Mheni) are neighboring states with a long history of competition, diverging political systems, alliances and disputes. Mheni is a large mountainous State on the coast of the Botuos Sea. Akeran is comprised of a federation of nearly 500 islands, some large, some small, extending 950 kilometers north-south closely along the length of Mheni. Both nations allocate a significant part of their budgets to civil and military space programmes.

2. In the late 20<sup>th</sup> century, huge reserves of natural gas and crude oil were discovered under Akeran's island chain, and it became a major petroleum exporter in the global marketplace. Historically, inter-island trade and travel was difficult because the waters throughout Akeran are threatened by many dangerous reefs and other natural hazards. Akeran's economy prospered from the petroleum trade, and it was able to exploit these resources to eliminate the navigation threats, enhance its own national and economic security, and enable sea-borne trade by supertankers and container ships to its islands. Akeran achieved this success in part by developing and flying its own precision navigation and timing (PNT) satellite system, known as SEANAV.

3. The SEANAV constellation is a set of 18 payloads hosted onboard a variety of commercial satellites that have been launched by sea-based commercial space launch providers into inclined, near-circular, medium Earth orbits. The SEANAV hosted payloads have been fully operational since 2010. The SEANAV PNT capabilities have been employed by the Akeran military as well as the international private sector. Private sector users purchase SEANAV User (SEA-U) receivers from Akeran in order to access the signal. Unbeknownst to Akeran, the SEANAV PNT signal also was used by the Mhenian military with unauthorized Mhenian produced SEANAV User Equipment (M-SUE) tuners.

4. The claimed economic zones of Akeran and Mheni overlap in places in the Botuos Sea, including the area of the Langerhans Islands. The Langerhans Archipelago is a small cluster of uninhabited islands and contains an abandoned airstrip that was constructed and used by the State of Mintov during the Second World War. No State or entity expressed concerns about the area until geologists determined substantial oil and gas reserves exist under its waters. When that occurred, considerable interest was



## THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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expressed by established Akera petro-companies, as well as by smaller and start-up companies in both Akera and Mheni.

5. Sain Communications is a Mhenian corporation founded, owned and controlled by former Mhenian space and defense contractor employees, including hardware and software engineers. Sain Communications conducts a variety of business operations, including consulting services for the Mhenian oil and gas industry. According to a filing with the Mhenian securities regulators, Sain Communications had a contract with one petroleum start-up company, Peabody Enterprises. Sain Communications' compensation was to be comprised, in majority part, of stock and stock options which were potentially lucrative in the event Peabody Enterprises successfully exploits the oil and gas reserves of the Langerhans Archipelago.

6. In mid-2014, in an attempt to assert its interests in the Langerhans Archipelago region, small Akera warships sailed out of harbors in northern Akera into the Langerhans Archipelago's waters. Akera's air force also flew several transports onto the abandoned airstrip. While there, the pilots exited their aircraft, saluted, planted an Akera flag next to their aircraft, shook hands, climbed back into their planes, and departed. Photographs of these events were widely publicized and celebrated by the Akera media.

7. In early 2015, Sain Communications received authorization from the Mhenian government pursuant to its Space Licensing Act to begin development of the X-12 satellite system. The license application listed the purpose of the X-12 satellites as the "testing of new communication technologies." Sain Communications proceeded to complete and deploy the X-12 system in early 2016. The X-12A and X-12B satellites were launched at 6 month intervals from a floating platform in waters of the Langerhans Archipelago by an international commercial launch services consortium which included entities incorporated in Akera. The X-12 satellites were placed in highly elliptical orbits, with their apogees located above the territories of Akera and Mheni. The X-12A and X-12B were phased within the same orbital plane to present 24-hour continuous coverage of the region. Mheni registered the X-12 satellites with the United Nations, and listed the purpose of each satellite to be the "testing of new communication technologies."

8. In mid-2016, Akera noted that its SEA-U receivers began to suffer from intermittent electromagnetic interference (EMI) and, as a result, the systems began to have difficulty accessing the SEANAV PNT signal. The EMI coincided with the overflights of the X-12A satellite over Akera, and only affected SEA-U receivers which were within the communications footprint of the X-12A. As the two X-12 satellites



## THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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became fully functional, other communications and digital systems tied to the SEANAV PNT system in Akeran suffered deterioration. Numerous sensitive electronic and electrical devices also were disrupted, including those used for military purposes and civil aviation. The prestigious investigative journal *Aviation Daily & Space Operations* reported that as a result of the interference of the SEANAV signal, an Akeran unmanned aerial vehicle (UAV) equipped with a SEA-U receiver had crashed at a military base, destroying the vehicle, as well as a building at the base, and killed two military personnel on the ground. In a press conference, the President of Akeran confirmed that an Akeran UAV had crashed. She announced that Akeran analysts had confirmed the loss was caused by EMI generated by the X-12A and that the EMI had disabled the UAV's onboard navigation capabilities. According to the Akeran President, the analysts concluded that the interference phenomena had never occurred prior to placing the X-12 system on-orbit. She described the X-12A satellite as a "sophisticated weapon" and complained that it was being used against Akeran, endangering its territorial integrity and national security.

9. By early-2017, the X-12A EMI had increased to prevent the use of SEA-U receivers throughout Akeran's islands and near the Langerhans Archipelago. This had the effect of causing a substantial reduction in international shipping and transit through Akeran's waters, because large supertankers and container cargo ships could not navigate safely through its reefs and hazards. As a result, Akeran oil exports and trade declined significantly. During this time, however, several companies from Mheni, including Peabody Enterprises, began oil drilling operations in the Langerhans Archipelago.

10. The Akeran Foreign Ministry issued a demarche to the Mhenian authorities demanding that Mheni take immediate action to prevent the transmission of signals from X-12 satellites that were causing or could cause harm to Akeran's use of the SEANAV system.

11. In a news conference, Mheni's foreign minister, Preston Yukon, responded to the Akeran demarche. He said that Mheni was not at fault for the deterioration of Akeran's communications. Yukon stated that there was no proof of a direct connection between the malfunctioning of the Akeran systems and devices and the transmissions of the X-12 satellites, and Mheni refused to take responsibility for the interference. He stated that Sain Communications was in possession of valid authorizations to perform its space experiments and testing in accordance with both Mheni's laws and international obligations. He added that, during the authorization process, nothing indicated that X-12A was designed to disrupt any other satellite's signal. He disclosed that Mheni was using M-SUE tuners, and explained that it would not be in Mhenian interests to interfere with the SEANAV system since its military and national space systems also used the signal for PNT purposes. As further proof on this point, Yukon stated that he was told



## THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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the X-12 satellites also used the SEANAV PNT signal for navigation purposes. He stated that Akera's authorities should search for the source of disruption in their own territory.

12. Akera sought redress for its complaints about the X12 satellite's transmissions through the International Telecommunication Union (ITU), and requested that Mheni accede to the Optional Protocol on Compulsory Settlement of Disputes. Mheni rejected the request. Thereafter, Akera invoked the ITU dispute resolution consultations. Mheni denied any responsibility for the EMI, and the ITU procedures were unsuccessful in resolving the matter.

13. Akera also raised concerns about the X-12 satellite before the United Nations (UN) Committee on the Peaceful Uses of Outer Space (COPUOS), as part of its Legal Subcommittee (LSC) and Scientific and Technical Subcommittee (STSC) general exchanges of views. Other members of the LSC and STSC declined to offer comments responsive to the topic, though some did advise that they wanted to consult with home governments before expressing any specific view. Akera also sent an official letter to the UN Secretary-General informing him about the situation, and formally requested the UN Security Council to undertake measures with a view to prohibiting the attacks against its communication networks and navigation systems. One permanent Member State of the Security Council, a long-standing ally of Mheni, issued a statement that it would veto any resolution against Mheni. Subsequently, the UN Security Council matter was tabled without a vote.

14. During this period of time, Akera developed a second generation of SEANAV PNT satellites, which were designed to transmit a more powerful and protected signal, resistant to the X-12A's EMI, and to counteract and neutralize the effects of the EMI. No longer flown as hosted payloads, the SEANAV-2 system was inaugurated with the launch of three satellites in the constellation in orbits close to the original SEANAV hosted payloads. The launch of these three satellites, Klondike, Hudson and Simcoe, was accompanied by an announcement by Akera's President that the SEANAV systems would be used in support of expanded use of its drone program, and to patrol waters in and around Akera and the Langerhans Archipelago. She also stated that the SEANAV-2 signal would not be as vulnerable to EMI as was the original SEANAV system, but the full deployment of SEANAV-2 would take several years to complete. She reiterated that the X-12 EMI was provocative, illegal, and a threat to Akeran national security interests, and demanded that Mheni take immediate action to end the EMI.

15. Mheni responded to the Akeran demand by stating that Mheni was not responsible for the EMI and that there was no proof that the X-12A caused any interference.



## THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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16. While the Klondike satellite orbited in near conjunction with the X-12A, the Klondike broadcast a new SEANAV navigation signal with information encoded and integrated within its waveform to counteract the EMI. The X-12A was equipped with an on-board M-SUE tuner, which malfunctioned when processing the Klondike's new PNT signal. This malfunction rendered the X-12A uncontrollable and it began to spin. Automatic systems on-board the X-12A ignited its thrusters in an attempt to correct its orientation, but the impaired M-SUE tuner sent inaccurate navigation information to the control system, and the automated thruster firings had the effect of changing the X-12's orbit and to lower its perigee to 100 km. Ground controllers were unable to stabilize the X-12A or boost its orbit, and within two weeks the satellite re-entered the Earth's atmosphere and was destroyed. With the destruction of the X-12A the EMI affecting SEA-U receivers use of the SEANAV PNT signals ceased.

17. In an attempt to reduce the potential for hostilities among the parties, and resolve their disputes, Akera and Mheni have decided to submit these issues for resolution to the International Court of Justice.

18. Akera and Mheni both are members of the United Nations and parties to the Outer Space Treaty, Rescue and Return Agreement, Liability Convention, Registration Convention, Moon Agreement, and the Constitution and Convention of the International Telecommunication Union and its Radio Regulations. Akera is a signatory to the ITU Optional Protocol on Compulsory Settlement of Disputes. The parties agree that there is no issue concerning the jurisdiction of the Court. Each party also stipulates that the ITU dispute resolution procedures have been exhausted.

19. Akera requests the Court to adjudge and declare that:

- a. Mheni is liable under international law for the harmful EMI preventing access to the SEANAV satellite PNT signals.
- b. Akera acted in conformity with international law by disabling the X-12A satellite.
- c. Mheni is liable to Akera for the loss of the unmanned aerial vehicle, the damage to the military facility, and the deaths of the two Akeran military personnel.

20. Mheni requests the Court to adjudge and declare that:

- a. Mheni is not liable under international law for any EMI preventing access to the SEANAV signals.



## THE 2014 MANFRED LACHS SPACE LAW MOOT COURT COMPETITION

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- b. Akera violated international law by disabling the X-12A satellite resulting in its destruction.
- c. Mheni is not liable to Akera for the loss of the unmanned aerial vehicle, the damage to the military facility, and the deaths of the two Akeran military personnel.