## INTERNATIONAL INSTITUTE OF SPACE LAW

OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION

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The Mor-Toaler Sea-Launch Project

(Brezonec vs. Mastodonia)

### **STATEMENT OF FACTS**

A private consortium, the "Mor-Toaler Company" (hereinafter "Mor-Toaler"), was created in 1992 to launch spacecraft from the sea. It is incorporated under the Law of Crocodilia, an island which is a dependent territory of Mastodonia. Mor-Toaler is owned by several investors, but there is no majority shareholder.<sup>1</sup>

In 1997, Mor-Toaler had a self-propelled semi-submersible North Sea oil-drilling platform converted into a launch platform. This conversion was done by the Norwegian company Renrek, a well-known ship builder and minority shareholder in Mor-Toaler. The platform, named "Freya", was registered in and now flies the flag of Freedonia. A number of Western European governmental reports have criticized Freedonia for its failure to meet the requirements of the International Maritime Organization both as to safety matters, and as to the qualifications of officers on board its vessels. The "Assembly and Control Ship" (ACS) from which command functions are performed is the "Nemo", which is also registered in Freedonia.

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<sup>&</sup>lt;sup>1</sup> The shareholders include: a Mastodonian company, MastodInvest (20%); the "Societe Internationale d'Activites Spatiales" (SIAS) (25%); the British "Outward Bound Company" (OBC) (20%); the "Company for Space Activities" (CSA, a Russian company) (15%); a Norwegian company, "Renrek" (10%); and the Order of Sicily (OS), an organization with charitable purposes and limited international personality, legally akin to the Order of Malta or the Knights of St John, which has its headquarters in Sicily (5%). The balance of the shareholding is held by minor investors in the USA and Europe.

Mor-Toaler launches are conducted as follows. The first and second stages of the launch vehicle are purchased from the country of Oristan, a former part of the USSR. Stages-to-Go, a company incorporated in the nation of Diamondia, provides the third stage. Other elements for the final assembly are bought on the international industrial market. The various launch components are brought together in San Francisco, and loaded on the Nemo before the Nemo proceeds into international waters. Assembly of the launch vehicle is carried out on board the Nemo while in transit to the launch location. Mor-Toaler launches occur near the equator, in an area protected from poor weather. This launch site is in the Exclusive Economic Zone of the nation Brezonec, which has been properly proclaimed in accordance with the 1982 Convention on the Law of the Sea.

The Nemo provides accommodation for up to 300 crew members, as well as for representatives of the customers for a particular launch, and 'Very Important Persons' from other potential customers. On-board services include medical, dining, recreation and entertainment facilities.

On board the Nemo, the launch vehicle "Lega" is assembled and the payload is integrated with it. The launch vehicle with payload aboard is then passed from the Nemo to Freya, in a condition ready to launch. The Nemo then sails to a safe distance and acts as the launch command centre, using radio links. During the launch phase, all personnel are removed from the Freya platform and every operation is controlled from the command ship.

The first launch by Mor-Toaler occurred in January 1998. The payload on the first launch was a satellite named "Loki". It was designed to be used as part of a Global Maritime Safety and Communications System. At launch, Loki belonged to "Zeon", a company incorporated in the USA and the satellite itself was registered on the US Space Registry. Loki was to provide Command, Navigation and Surveillance, Air Traffic Management (CNS/ATM) services for the International Civil Aviation Organization for the use of aircraft in the Atlantic Ocean region.

The launch of Loki was successful. After the launch and almost three months of use without problem, Loki was sold to MastodSpace on April 1, 1998. MastodSpace is incorporated under the law of Mastodonia. The USA was informed of the sale. On April 8, 1998, notification was drafted to transfer Loki to the Mastodonian Space Registry, but this notice had not yet been transmitted to that Registry when, on April 15, 1998, an explosion occurred in the third stage of the vehicle which had placed Loki in orbit and much debris was created.

From telemetry and radar data it is clear that on April 16, 1998, one large piece of the third stage of the launcher collided with Brezosat, a telecommunications satellite. Brezosat was part of an eight-satellite low-earth-orbit satellite telecommunication constellation operated by a Brezonec company, Brezoncom, which is 51% state-owned. Brezosat ceased to function as a result of the collision. Before the collision, the Brezoncom system had already been having problems. A number of its satellites had failed due to faulty manufacturing processes in Brezonec. Further, because of a series of launch accidents the satellites held in reserve for replacement of failing satellites in the Brezoncom system had already been used, and the whole system was considered generally unreliable. As a result of the collision, many customers of the Brezoncom System cancelled their contracts. A conservative estimate is that the loss of contracted business for Brezoncom amounts to US\$90 million. In addition, Brezonec itself is now paying some US\$50 million a year to foreign satellite systems to provide the services it otherwise would have carried on the Brezoncom system. Brezonec is highly dependent upon its Brezoncom satellite system for its internal and external telecommunication needs.

No public inquiry into the possible cause of the accident has been conducted, but a team formed by insurance companies involved has determined that the explosion likely occurred because the fuel tanks of the third stage of the launch vehicle had not been fully and properly emptied (vented) once Loki had been inserted into its orbit. Neither the law of Mastodonia, nor the terms under which it registers space objects, mention such a procedure. The venting of fuel tanks, however, is an industry standard and the licensing requirements of most other launching states require venting in order to avoid such occurrences.

On April 29, 1998, Loki itself suddenly stopped transmissions. Space surveillance systems have established that it also was hit by debris from the exploded stage three of its launch vehicle. As a result, the accuracy of the regional CNS/ATM system has been greatly diminished and an accident happened to an aircraft relying on the system. The aircraft was owned by Brezonec-Air. It was on a flight from Brezonec-City to Gravascar, a well-known place of pilgrimage in Mastodonia. It crashed with 200 people on board. Most of the passengers were Brezonec citizens. Also among the dead were seven young executives from Oil-Croc, a major privatized oil company incorporated in Crocodilia. Three of these were British, and two Danish. Brezonec-Air, which is wholly owned by the Brezonec government, recently acceded to the International Air Transport Association sponsored revision to the Warsaw Convention system, and therefore faces large claims in respect of these deaths. The current sum claimed in respect of the deaths

amounts to US\$250 million, and the aircraft itself cost US\$17 million. It has been determined that the accident was wholly attributable to the failure of Loki.

Following these events, Brezonec requested full compensation from Mastodonia which it held responsible for the damage. An exchange of letters between the Parties concerning the claims, and attempts to settle the matter though diplomatic channels as called for by the Liability Convention failed. Neither Party has requested the establishment of a Claims Commission under the Liability Convention. To resolve the matter, the Parties have agreed to refer the case to the International Court of Justice (ICJ). Brezonec seeks reparation from Mastodonia for the damage caused by the space debris to the Brezosat telecommunication satellite, and for the crash of the Brezonec-Air aircraft. Both Brezonec and Mastodonia have ratified the Outer Space Treaty, the Agreement on Rescue and Return of Astronauts, the Liability Convention, the Registration Convention and the Moon Agreement. Both are members of the International Civil Aviation Organization and the International Telecommunication Union.

### **ISSUES**

The ICJ has determined that any questions of quantum - the amount of the claims - shall be deferred until after the Court decides the liability issues. Briefs and argument should not speculate as to quantum. Furthermore, students should not elaborate on the Warsaw System but assume that the amount of damages with respect to the victims of the crashed aircraft is settled.

The following issues are reserved for briefing and argument to the Court under the agreed compromis. There are no issues of jurisdiction or standing, and briefs and arguments with regard to the issues or remedies are to be confined solely to legal principle.

- 1. Whether Mastodonia is liable under international law for:
  - a) the damage to the Brezosat satellite,
  - b) the loss of business contracts on the Brezoncom system, and
  - c) costs incurred by Brezonec to procure replacement services on other satellite systems.
- 2. Whether Mastodonia is liable under international law for:

- a) the loss of the Brezonec-Air aircraft, and
- b) all or some of the damages which Brezonec-Air may be required to pay under the contractual revision to the Warsaw system of damages in air transport.

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