

**INTERNATIONAL INSTITUTE OF SPACE LAW**  
OF THE INTERNATIONAL ASTRONAUTICAL FEDERATION

**INSTITUT INTERNATIONAL DE DROIT SPATIAL**  
DE LA FEDERATION ASTRONAUTIQUE INTERNATIONALE

3-5, RUE MARIO NIKIS  
75015 PARIS - FRANCE

Tél. 33-1-45.67.42.60  
Telefax 33-1-42.73.21.20

**Manfred Lachs Space Law Moot Court Competition 1996**

**Parlivia v. Californium, *et al***

***Case Concerning Liability for Commercial Space Endeavors***

**ISSUES PRESENTED:**

- 1) Whether a claim can be presented under the Liability Convention while arbitration is in progress; 2) Whether a contractual waiver precludes recovery for satellite loss;
- 3) Whether a claimant State may recover lost revenues and refund of the launch price under the Liability Convention; and 4) Apportionment of liability

**Statement of Facts**

On May 1, 1998, the Ministry of Industry (“MI”) of Parlivia, entered into a launch contract with ISE Enerkru, Ltd. (“ISEE”), a joint venture of International Space Enterprises, Inc. (“ISE”) of the Republic of Californium and NPO Enerkru of the Republic of Ukrastan. The contract provided for the launching of MI’s satellite, *Environsat*, on Enerkru’s *Progyia* launch vehicle. *Progyia* launch vehicles are marketed worldwide by ISEE from its headquarters in the Pleasant Islands.

Parlivia, through MI, had contracted with a local entity to build *Environsat*, a remote sensing satellite to be used for environmental monitoring and for forestry and agricultural applications. Data acquired through the satellite would be used by MI and also would be sold to private entities in Parlivia, as well as to foreign governments.

On April 8, 2000, *Progyia*, with *Environsat* on board, lifted off from its launch pad at the brand new commercial launch site at Cape Kou in Patalia. The two-stage *Progyia* placed *Environsat* in its intended 800 km equatorial orbit.

Due to a thruster malfunction, the *Progyia* second stage remained in an orbit very close to that of *Environsat*. After the initial separation of the *Progyia* second stage from *Environsat* through a spring mechanism (which caused the objects to

separate with only a very small distance), ISEE intended to perform 1) a collision avoidance maneuver and 2) a re-orbit assist maneuver. If successful, these maneuvers would have lowered the perigee of the rocket stage to 250 km. The maneuvers were to be accomplished by firing of small thrusters on the *Progyia* second stage, but because of a software error, the thrusters failed to ignite. Neither the launch contract, nor its technical annexes specified how the separation of the *Progyia* second stage would occur.

On July 6, 2000, the *Progyia* second stage exploded due to overpressurization in its propellant tanks caused by the excess propellant remaining after the thruster malfunction. Over one-hundred pieces of debris generated by the explosion were distributed into a variety of orbits, many of which intersected the *Environsat* orbit.

Thirty-five days later, a small fragment of the exploded rocket body hit and completely disabled *Environsat*.

A subsequent failure investigation conducted by a Safety Review Board appointed by ISEE revealed that the software error that prevented the thrusters from firing resulted from a computer coding error made by Dr. Yelkov, an Enerkru computer programmer. Dr. Yelkov had entered an erroneous command code for thruster ignition. The code determined the time of activation of the battery-powered valves which would cause the propellant to flow through the propellant lines and into the combustion chamber and ignite the thrusters. The correct time code was “1.2 x 10<sup>2</sup>” seconds, that is, 120 seconds. Instead, the erroneously encoded time was “1.2 x 10<sup>6</sup>” seconds, *i.e.*, 1.2 million seconds, or 14 days. By this time, the batteries were dead and the thrusters never fired.

MI had purchased launch and in-orbit insurance through its insurance broker, Will McCoone, Ltd., covering the entire value of the satellite (\$90 million) and extending until two years after launch. The insurance underwriters compensated MI under this policy.

MI also had purchased a launch price refund guarantee as part its launch contract with ISEE. MI now claims refund of the launch price in the amount of \$50 million from ISEE and its parent ISE. Both ISEE and ISE reject MI’s claim for a refund.

A group of insurance underwriters registered in Parlivia known as Space Insurers of South America (SISA), which had paid \$10 million of MI’s insurance claim, have turned to ISEE and ISE with subrogation claims for their respective insurance payments. They claim ISEE, ISE, and Enerkru acted with negligence and gross negligence in 1) failing to perform the separation maneuvers that would have lowered the orbit of the *Progyia* second stage; and 2) failing to vent or deplete the propellants contained in the rocket stage. ISEE and ISE reject the claim, contending that SISA is precluded under the launch contract between MI and ISEE from bringing the claim.

Both MI’s and SISA’s claims were submitted to arbitration, since the ISEE-MI contract provided that all disputes thereunder would be settled in this manner. The arbitration proceeding has yet to be concluded.

Concerned that ISEE and ISE would be unable to pay for the damage in a timely fashion even if MI and SISA were to prevail on their respective claims in arbitration, the government of Parlivia asserted claims on behalf of MI and SISA against the governments of Californium, Ukrastan, the Pleasant Islands, and Patalia under the Liability Convention of 1972 for 1) loss of the satellite (\$90 million), 2) the launch price (\$50 million), and 3) loss of revenues (\$20 million). There is no agreement among these four respondent States as to apportionment of potential liability or damages. All four respondent States have rejected Parlivia's claims.

The parties failed to settle the matter through diplomatic channels, as called for by the Liability Convention. Neither party requested the establishment of a Claims Commission under the Liability Convention. To resolve the matter finally, the parties have agreed to refer the case to the International Court of Justice for resolution of the issues stipulated below. There are no issues as to the Court's jurisdiction.

The Court has appointed a Special Master to examine the highly technical issues involved in evaluating fault under the Liability Convention. This Special Master will report to the Court. In the interim, the Court has requested the parties to address the following issues:

### **Issues Presented Before the International Court of Justice**

- 1) Whether Parlivia may claim under the Liability Convention while the arbitration proceeding is in progress;
- 2) Whether the ISEE-MI contractual waiver regime precludes Parlivia's recovery of damages for the satellite loss;
- 3) Whether damages recovered under the Liability Convention may include a) loss of revenues, and b) refund of the launch price (including to what extent the Refund provision in ISEE-MI contract is relevant); and
- 4) Assuming that the Court finds that ISEE's conduct of launch operations meet the standard of "fault" under the Liability Convention, whether all four respondent States are liable, and how damages to Parlivia should be apportioned among respondent States, if any, found liable under the convention.

### **Instructions to the Students**

- 1) You should prepare one memorial for the Applicant (Parlivia), and one memorial for the four Respondent States (Californium, *et al*);
- 2) You should assume that all of the parties to this dispute are parties to all of the relevant international treaties and conventions;
- 3) You should cite and discuss the relevance of *Martin Marietta v. INTELSAT* (763 F. Supp. 1327 (1991), *aff'd. in part, den. in part*, 991 F. 2d 94 (DC Cir. 1992)) and *Appalachian Insurance Co. v. McDonnell Douglas* (262 Cal Rptr. 716 (1989)).

copies of which will be provided to the European schools which register for the competition; and

4) You should *not* engage in a discussion of whether ISEE's conduct of launch operations was negligent/culpable (the fault issue). This issue will be addressed by the Court later when it has received a report from the Special Master. The report will not be part of this problem.

**CONTRACT BETWEEN ISE ENERKRU, LTD. (“ISEE”) AND THE  
MINISTRY OF INDUSTRY OF PARLIVIA (“MI”) FOR THE  
LAUNCHING OF ENVIRONSAT**

**(Excerpts)**

ARTICLE 1 -- **DEFINITIONS** (Excerpts)

1.1. “Associates” shall mean any individual or entity, governed by public or private law, who shall act, directly or indirectly, on behalf of one party in the fulfillment of the obligations undertaken by such Party in this Contract, for example, but without limitation, the personnel of each of the Parties, their suppliers and contractors, including persons who shall act on behalf of such party upon the fulfillment of its obligations or else during Launch Preparations.

1.2. “Best Efforts” shall mean diligently working in a good workman-like manner as a reasonably prudent Launch Provider.

1.3. “Customer” shall mean MI.

1.7. “Launch” means intentional ignition of the *Progyia* Launch Vehicle.

1.8. “Launch Failure” shall mean the failure of the to accomplish the Launch Mission.

1.9. “Launch Mission” shall mean the launch of the Spacecraft for purposes of enabling said Spacecraft to carry out its operational objectives.

1.10. “Launch Provider” shall mean ISEE.

1.11. “Launch Services” shall mean the services to be provided by Launch Provider under this Contract.

1.12. “Launch Vehicle” shall mean the *Progyia* launch vehicle provided by Launch Provider under this Contract.

ARTICLE 2 -- **CONTRACTUAL DOCUMENTS**

2.1. This Contract shall consist of the following documents, which shall be legally binding upon the Parties:

2.1.1. Terms and Conditions as expressed in ARTICLES 1-30;

2.1.2. APPENDIX A, LAUNCH SERVICES TECHNICAL SPECIFICATIONS;

2.1.3. APPENDIX B, CUSTOMER TECHNICAL COMMITMENTS; and

2.1.4. APPENDIX C, INTERFACE CONTROL DOCUMENT.

### ARTICLE 3 -- **LAUNCH SERVICES**

3.1. Launch Provider shall use its Best Efforts to launch Customer's Spacecraft as specified in APPENDIX A and in accordance with the Launch Mission.

### ARTICLE 13 -- **REFUND** (Excerpts)

13.1. A Refund Guarantee is hereby purchased by MI, the charges of which are included in the Contract Price set forth under ARTICLE 7, Prices for Launch Services.

13.2. In the event of a *Progyia* Launch Failure, Customer shall be entitled to a Refund of the Launch Price.

13.5. The Refund provided for in this Article 13 shall constitute the sole and exclusive remedy available to Customer for any Launch Failure.

### ARTICLE 15 -- **WAIVER OF CLAIMS** (Excerpts)

15.1. Launch Provider hereby waives any and all claims against Customer and against Customer's Associates, directors, officers, servants, agents, contractors, and subcontractors, for any property damage it may sustain and for any bodily injury or property damage sustained by its own employees resulting from Launch Services. This provision applies regardless of whether the claim arises under tort, contract or any other theory of liability.

15.2. Customer hereby waives any and all claims against Launch Provider and against Launch Provider's Associates, directors, officers, servants, agents, contractors, and subcontractors, for any property damage it may sustain and for any bodily injury or property damage sustained by its own employees resulting from Launch Services. This provision applies regardless of whether the claim arises under tort, contract or any other theory of liability.

15.3. Launch Provider and Customer shall each be responsible for and shall release the other Party from liability for any property damage they respectively sustain and for any bodily injury or property damage sustained by its employees resulting from Launch Services. Each party shall purchase the insurance it deems necessary to protect its interests against the risk of damage for which claims are waived and releases are made under this Article 15.

15.6 The reciprocal waivers provided for in this Article 15 shall extend to all indirect and consequential damages . . . .

**ARTICLE 16 -- THIRD PARTY LIABILITY (Excerpts)**

16.1. Launch Provider shall procure and maintain Third Party liability insurance to protect Launch Provider, Customer, the Kingdom of Patalia, the Republic of Ukrastan, the Commonwealth of the Pleasant Islands, the Republic of Californium, and their respective Associates and contractors and Subcontractors arising out of or resulting from Launch Services. Such liability insurance shall name said parties as additional insureds.

**ARTICLE 17 -- LIMITATION OF LIABILITY**

17.1. Launch Provider's Liability to Customer and its Associates and contractors and subcontractors, whether arising under contract, tort or any other theory of liability, shall not include any loss of use or loss of profit or revenue or any other indirect, special, consequential, or incidental damages. In no event shall Launch Provider's liability to Customer for any claim arising out of a particular Launch exceed the price for Progyia Launch Services as provided for in Article 7, Prices for Launch Services. **SUBJECT TO THE REFUND GUARANTEE, LAUNCH PROVIDER HAS NOT MADE NOR DOES MAKE ANY REPRESENTATION OR WARRANTY, WHETHER EXPRESS OR IMPLIED, WITH RESPECT TO THE DESIGN, OPERATION, CONDITION, QUALITY, SUITABILITY OR MERCHANTABILITY, OR FITNESS FOR USE OR FOR A PARTICULAR PURPOSE.**

**ARTICLE 23 -- DISPUTE SETTLEMENT (Excerpts)**

23.1. The Parties shall endeavor to reach an amicable settlement of any dispute or controversy . . . . If such a settlement cannot be reached, the Parties shall submit the dispute or controversy to arbitration . . . .