

Information Act

STATE RESPONSIBILITY AND LIABILITY FOR
SPACE ACTIVITIES

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GENERAL PRINCIPLES OF STATE RESPONSIBILITY

- Internationally wrongful act
 - Breach of treaty obligation
 - Breach of customary international law obligation
 - Breach of sovereignty
- Attribution
 - ≠ nationality, habitual residence, incorporation
 - Organ of a State (including through another State)
 - Authorised by law
 - Directed or controlled by a State
 - Governmental acquiescence
 - Insurrectional movement
 - Adoption

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GENERAL PRINCIPLES OF STATE RESPONSIBILITY

- Circumstances precluding wrongfulness
 - Consent
 - Self-defence
 - Countermeasures
 - Force majeure
 - Distress
 - Necessity
- Reparation of an international wrongful act
 - Restitution
 - Satisfaction
 - Compensation
 - Contribution
- *Lex specialis*

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A SPECIAL REGIME OF STATE RESPONSIBILITY FOR SPACE ACTIVITIES

- *Outer Space Treaty*, Art VI: “States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty.”
- *Outer Space Treaty*, Art VII expanded by *Liability Convention*



LIABILITY CONTEXTS

- *Liability Convention, Art II:* “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.”
- *Liability Convention, Art III:* “In the event of damage being caused elsewhere than on the surface of the Earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.”
- Cascading damage – joint and several liability



'LAUNCHING STATE'

- Four circumstances that can qualify a State as a 'launching State':
 - Launch
 - Procure launch
 - Territory used for launch
 - Facility used for launch
- 'launching State' vs 'launching authority' vs 'appropriate State' vs 'State of registration'
 - 'launching State' – liability and registration responsibility
 - 'launching authority' – rescue and return powers and responsibility
 - 'appropriate State' – authorisation and continuing supervision (conformity with *Outer Space Treaty*)
 - 'State of registration' – jurisdiction and control



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APPORTIONING LIABILITY

- Joint and several liability between launching States
- Indemnification
- Liability agreements between launching States
- Exonerations for gross negligence

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SETTLING A CLAIM

- Claim within one year of becoming aware
- Diplomatic resolution in the first instance
- Otherwise, Claims Commission

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CASE STUDY: KOSMOS 954

- Soviet reconnaissance satellite launched 1977
- Nuclear power sources – 50kg of U235
- De-orbited in 1978, parts spread throughout
- Combined CA/US Operation MORNING LIGHT to recover fragments
- Canadian government sought compensation of C\$6,041,174.70 from the Soviet Union for actual expenses and additional compensation for future unpredicted expenses
- USSR eventually paid the sum of C\$3 million under a bilateral agreement negotiated independently of the *Liability Convention*



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AUSTRALIAN SPACE REGULATORY
APPROACH

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BACKGROUND TO DRAFTING OF SPACE ACTIVITIES ACT 1998

- Asia Pacific Space Centre at Christmas Island
- United Launch Systems International near Gladstone in Queensland
- Operations Agreement with Kistler Aerospace, providing a license to operate a commercial launch facility at Woomera
- *Space Activities Act 1998*
 - Facilitating lucrative commercial space industry
 - Implementing international obligations – from the space treaties, and from specific bilateral agreements
 - Provide for the payment of adequate compensation



APPLICATION

- Limited to civil space launch and return activities
- In Australia or by Australians
- Doesn't apply to government

space object means a thing consisting of:

- (a) a launch vehicle; and
- (b) a payload (if any) that the launch vehicle is to carry into or back from an area beyond the distance of 100 km above mean sea level; or any part of such a thing, even if:
- (c) the part is to go only some of the way towards or back from an area beyond the distance of 100 km above mean sea level; or
- (d) the part results from the separation of a payload or payloads from a launch vehicle after launch.



LICENCES

- Space Licence
 - To operate a launch facility
 - Use certain launch vehicles
- Launch permit
 - particular space object(s)
 - return of space object(s)
- Overseas Launch Certificate
- Authorization of Return

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CONDITIONS OF LICENCES

- Competence to operate
 - Program Management Plan
 - Technology Security Plan
 - Flight Test Plan
 - Emergency Plan
- Environmental approvals under Australian law
 - Environmental Plan
- Sufficient funding (organisational structure and financial standing)
- Compliance with insurance/financial requirements (but waiver is possible)

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CONDITIONS OF LICENCES

- Probability of causing substantial harm to public health or public safety or causing substantial damage to property is as low as is reasonably practicable
 - Risk Hazardous Analysis Methodology
- Australia's national security, foreign policy or international obligations
- No nuclear weapons or weapons of mass destruction
- Nuclear material
- Employment history for employees (see Regulations)
- Compliance with regulations on launch facility and launch vehicle
- Any agreement or arrangement for indemnification



LAUNCH SAFETY OFFICER

- Can give any necessary directions for public safety (including stopping of, or destruction of launch vehicle)
- Seizure of items from launch facility
- Offence of non-compliance
- Access to facility (with 'consent')
- Inspection of equipment (with 'consent')

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LIABILITY

- Lesser of \$750 million or Maximum Probable Loss
- Up to \$3 billion
- 'liability period' = 30 days from launch and from beginning of re-entry manoeuvre until space object comes to rest

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RISK HAZARD ANALYSIS

- Maximum third-party individual casualty risk is 1/10 million per launch and 1/1 million per year
- Maximum risk to a 'Designated Asset' is 1/10 million per launch and 1/1 million per year

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INVESTIGATIONS

- Licence is suspended
- Space object or wreckage becomes official property on an interim basis
- Investigator secures accident site
- Investigator can gather evidence
- Costs to be met by launch operators

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GOVERNANCE

- Space Licensing and Safety Office (Space Coordination Office, Department of Industry, Innovation and Science)

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OTHER RELEVANT DOMESTIC LAWS

- *Radiocommunications Act 1992*
- *Australian Radiation Protection and Nuclear Safety Act 1998*
- *Civil Aviation Act 1998 and Regulations 1998*
- No regulation of commercial remote sensing
- No regulation of commercial SSA activities

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INTERNATIONAL AGREEMENTS

- Agreement between the Government of Australia and the European Space Agency for a Co-operative Space Vehicle Tracking Program (2011).
- Agreement between the Government of Australia and the Government of the United States of America to further amend and extend the Agreement concerning Space Vehicle Tracking and Communication Facilities (original 1960, last amended in 2010, and renewed in 2012).
- Agreement between the Government of Australia and the Government of the United States of America to Amend and Extend the Agreement concerning the Conduct of Scientific Balloon Flights for Civil Research Purposes (original 1992, updated 2006, and renewed in 2012).
- Agreement between the Government of Australia and the Government of Russia Federation on Cooperation in the Field of the Exploration and Uses of Outer Space for Peaceful Purposes (entered into force 2004).
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SPACE LAW CHALLENGES

Generally

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THE THREE? C'S

- Congested
- Contested
- Competitive
- ...
- Commons
- Beyond the consciousness and conscience of the general population

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ACTIVE DEBRIS MANAGEMENT

- Definition of 'space debris' versus 'space object'
- Ownership, jurisdiction & control of space objects
- Legal framework incentivising active debris management
- Potential liability
- Regulation of dual-use potential
- Technology and knowledge-sharing

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'SPACE DEBRIS'

- Definition
 - No legal instrument defines 'space debris'
 - Space Debris Mitigation Guidelines (IADC/COPUOS)
 - Academia

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'SPACE DEBRIS'

- Elements of definition:
 - Objects (whole satellites?, components?, propellant?, nuclear power sources?, astronaut?, paint flecks?, ...)
 - Outer space (all orbits?, deep space?, celestial bodies?)
 - Man-made (problem of natural 'debris'?)
 - Non-functional ('trash' vs 'treasure')
 - Discarded (evidence?)
 - Accidentally/Intentionally?
 - Duration (only long-lived?)
 - Not a 'space object'



'SPACE OBJECT'

- Also not defined
- Includes 'component parts' (Art VII, VIII Outer Space Treaty, Art I Liability Convention, Art I Registration Convention)
- Even if broken up (Rescue and Return Agreement)
- Consequences:
 - Registration (+ jurisdiction and control)
 - Rescue and return
 - Liability

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OWNERSHIP, JURISDICTION & CONTROL

- Art VIII *Outer Space Treaty*

A State Party to the Treaty on whose registry an object launched into outer space is carried **shall retain jurisdiction and control** over such object, and over any personnel thereof, while in outer space or on a celestial body.

- Exclusive power to regulate and affect
 - Any effects on space object require consent
- Declaratory or mandatory?
 - If declaratory, then no registration = no power to regulate and affect
 - If mandatory, then control is an obligation



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- Ownership remains regardless of:
 - where the object is
 - whether it breaks up
 - how long it has been there



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- No concept of 'abandonment'
- In absence of identified State of registry, what is incentive for active debris management?



INCENTIVISING ACTIVE DEBRIS MANAGEMENT

- Why do Active Debris Management?
 - To reap a benefit (salvage)
 - Analogy from maritime salvage laws
 - Control vs ownership
 - To avoid a detriment (safety)
 - Space objects of a 'hazardous or deleterious nature'
 - Purposive approach to interpretation (compare air law, law of the sea)
 - Law of necessity
 - Maintenance of international peace and security (UNSCR) – unlikely
 - New legal instrument - unlikely



POTENTIAL LIABILITY

- Duty of care (existence of international legal obligation)
 - to avoid 'harmful interference' (consequence)
 - reasonable expectation (likelihood)
- Standard of care
 - 'due regard'/due diligence/international consultation
- Breach
 - Would reasonable person have taken precautions
 - control of space object & active debris management
- Causation
 - attribution (identify launching State)
 - effects of space weather

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DUAL-USE POTENTIAL

- Domestic legislation
 - Licences, reporting, notification, coordination
 - Definition of 'weapon'
 - practical/behavioural (intent/use)
- vs
- technical (design/potential)

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DUAL-USE POTENTIAL

- Intended or actual hostile use would be regulated
- *Jus ad bellum* (law on the resort to force by States)
 - Spectrum
 - Intent (zones, space traffic management, ...)
 - UN Security Council resolution
- *Jus in bello* (law on the conduct of hostilities)
 - Necessity
 - Distinction
 - Proportionality
 - Perfidy
 - AP I, Art 36 – Legal reviews of new weapons, means or methods of warfare

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COMMERCIAL EXPLOITATION OF SPACE

- Art 11, Moon Agreement and the analogy with 'The Area' under the Convention on the Law of the Sea
- Space Resource Exploration and Utilization Act of 2015 (US) – subject to:
 - No 'national appropriation' of outer space, including the Moon and other celestial bodies
 - "for the benefit and in the interests of all countries"
 - "the province of all mankind"
 - "promote international cooperation"
 - moon and other celestial bodies may be used only for exclusively peaceful purposes
 - harmful contamination and interference shall be avoided



OTHER CHALLENGES

- Hybrid aerospace vehicles
- State behaviour WRT use of electro-magnetic spectrum and 'spirit' of ITU Constitution and Convention + Radio Regulations

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