ISPL - SPACE POLICY AND LAW COURSE

RISK, LIABILITY & INSURANCE CONSIDERATIONS
17 OCTOBER 2017

NICK HUGHES, HFW

LIABILITY CONVENTION 1972 (1)

ARTICLE II
" A launching State shall be **absolutely liable** to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft in flight. “
There is thus a strict liability standard applicable to the State(s) for such damage caused by a space object, launched within its responsibility, even when damage is caused by circumstances outside of its control.

ARTICLE III
" ...damage elsewhere...to a space object.. launching State shall be liable only if the damage is due to its **fault**... “
For damage sustained in space a fault liability standard applies such that the State is liable only to the extent that such damage is caused by fault of the State (or States) responsible for the launch.

LIABILITY CONVENTION 1972 (2)

ARTICLE V
" Whenever two or more States jointly launch a space object , they shall be **jointly and severally liable** for any damage caused.
Note: Article IV extends this principle in case of damage caused in space to a space object of a third State and, without prejudice to the rights of the third State, the burden of compensation shall be apportioned between the first two States i.a.w. the extent to which they are at fault or, if this cannot be established, equally.

ARTICLE VIII
" **A State** which suffers damage, or whose natural or juridical persons suffer damage, **may** present to a launching State a **claim** for compensation for such damage.. “
Any action under the Convention to seek compensation for damage must be pursued as between the States concerned.

ARTICLE X
" A claim...may be presented..not later than **one year** following the date of the occurrence of the damage or the identification of the launching State which is liable. “

There is a statute of limitation of one year.

LIABILITY CONVENTION 1972 (3)

- Articles X-XV address the procedures to be followed to file a claim under the Convention.
- Note that whilst a State may pursue a claim under the Liability Convention it may alternatively seek redress by application to the courts of the launching State but it cannot do both.
- Whom may claim ?
  - This is a Convention to facilitate the payment of compensation. Art VIII allows , as is usual under international law, a State to present claims a.o.o. damages sustained by itself and by its nationals but also, where such claims have not been presented, another State may claim in respect of damage sustained by any person in its territory and, failing such claim presentation, another State may claim damages on behalf of its permanent residents.

Claims presentation / dispute resolution procedure :

(i) Art IX provides for claims to be presented through 'diplomatic channels', if necessary, in the absence of diplomatic relations, by use of a third State.

(ii) Arts XIV – XX enable recourse, failing settlement of a claim through diplomatic negotiations after one year, to a process of third party assessment by a Claims Commission, with resolution within a further period of two years and six months. If the parties agree, the 'decision' shall be "final and binding". Otherwise its 'award' shall be "final and recommendatory" and considered by the parties in good faith. The ability to have recourse to a third party assessment is a crucial element of the Convention, potentially important for its utility; the mechanism in the Convention reflects compromise in the negotiation of the text.

LIABILITY CONVENTION 1972 (4)
DEFINITIONS

'LAUNCHING STATE' MEANS:

- (i) A State which launches or procures the launching of a space object ;
- (ii) A State from whose territory or facility a space object is launched ;

(Thereby there are four categories of State, each treated on the same footing.)

'SPACE OBJECT' MEANS:

- (i) Component parts of a space object; and
- (ii) Its launch vehicle and parts thereof.

(Thereby the phrase, found in OST 67, of "launching ..into outer space" is avoided.)

'DAMAGE' MEANS:

- (i) Loss of life, personal injury or other impairment of health;
- (ii) Loss of or damage to property of States, of persons or of IGOs.

(The Convention does not contain any limitation of liability. It also does not set out the law applicable to the heads and amount of compensation : a controversial issue in course of negotiation of the draft having regard to material differences as between States. The fourth preamble to the Convention refers to "international rules and procedures..prompt payment...full and equitable compensation to victims.. Art XIII provides as a default that compensation shall be payable in the currency of the Claimant State.)

LIABILITY CONVENTION 1972
(5) ADDITIONAL COMMENTS

- The third of the five International Treaties with the third highest number of ratifications (89) and signatories (22), include most, if not all, of the space-faring nations.

- The OST and the Liability convention are the most important treaties.

- Introduces a comprehensive Third Party Liability (TPL) regime in respect of damage caused in air, space and on the ground.

- Some potential problems with definitions e.g.
  - in certain circumstances which State is deemed to be the “launching state”?
  - what constitutes a “space object”?
  - to what extent can space debris be considered a space object?
  - what is meant by “fault” and “negligence” (both terms being used)?
  - is indirect damage covered as well as direct damage?
  - does not cover “domestic” damage.

- There are likely to be some different interpretations under different national legal systems

LIABILITY CONVENTION 1972 (6)
ADDITIONAL COMMENTS

- Where damage has been caused to persons or property that is insured, insurers would normally look to exercise subrogation rights against the persons responsible for the cause of the damage. The insurer could only invoke the provisions of the Convention through the intervention of the relevant State (not necessarily the State of the insurers).

- If space debris is considered to be a space object, in circumstances where debris causes damage, it may not be possible to trace it to a particular launching State.

- Only one instance where the Liability Convention was invoked (under article 2 - strict liability in respect of damage on earth): In 1978 Soviet Spacecraft RORSAT Cosmos 954, in part survived re-entry and left a scattering of radio-active debris on Canadian territory. Canadian Gov. lodged a $6M claim to clean up. Was settled for $3M on diplomatic basis (without recourse to a Commission established for the specific purpose as envisaged in the Convention)

LIABILITY CONVENTION 1972 (7)
ADDITIONAL COMMENTS

- Has never been a claim made under Article 3 of Liability Convention relating to damage in orbit (where proof of fault is required).

- However, this would have been possible in 2009, when the Iridium-33 civil communication satellite was in collision with COSMOS 2251 (a derelict Russian military satellite). Some speculation as to why Iridium LLC, the operator, did not seek to invoke the Convention through the intervention of US Gov.(difficulty to prove Russian fault, Iridium satellite at end of life and relatively low value.

- (If Iridium-33 was insured under an “all risks first party” insurance, the insurer(s) (not necessarily a US entity) would ordinarily have been entitled to invoke a subrogation clause in the event of payment of an insurance claim but would need to invoke the Convention provisions through the intervention of the US Government.)

- A further possible complication is the determination of the “launching State”. Iridium is a US Corporation which procured the satellite and its launch but the launch itself was undertaken by the Russian Space Agency on a Proton vehicle from Baikonour in Kazakhstan. Therefore Russia or Kazakhstan could be considered to be the launching state.

LIABILITY CONVENTION 1972 (8)
ADDITIONAL COMMENTS

- The OST and the Liability Convention are the main pillars of international law governing space activities and most space-faring nations have ratified them;

- No revision agreed of UN space treaties since they came into force (OST is 50 years old and this year is the 45th anniversary of the Liability Convention). This is in contrast to e.g. aviation treaties which have been subject of a number of major revisions. There have however been further Resolutions of the UN General Assembly relating to use of outer space. Also a work programme of review of States practices/national legislation;

- Difficulty in enforcement of Treaties in specific cases. Depends on cooperation of parties and on diplomatic pressure;

- Treaties were concluded in the infancy of space activity when only governments were funding and initiating activities. Many developments were not anticipated such as the volume of activities, range of space applications, number of space players, problem of space debris, growth in commercial activities, and suborbital space tourism etc.

HOW HAVE INTERNATIONAL TREATIES STOOD UP? (1)

- An increase in space activities and of commercial space activities in particular, is likely to increase the number of incidents where Treaties may be invoked and put to the test.

Some further uncertainties with the Liability Convention:

- The Liability Convention does not expressly provide the sole and exclusive cause of action;
- The State concerned may be reluctant to invoke the Liability Convention for a specific incident;
- What otherwise would be the legal regime and jurisdiction applicable to third party claims ? (There may be options as to which legal regime to invoke);
- What would be the effect on the licensing arrangements?
- Can a form of claims management/dispute resolution be devised in which commercial parties can have confidence ?

HOW HAVE THE TREATIES STOOD UP? (2)

- The provisions have not routinely been engaged and used (although- separately constituted - inter governmental commissions have been formed in cases of launch failures).
- What is the test of fault?
- Are the instruments engaged in all cases of damage ?
- Are the provisions appropriate for occurrences in space involving private parties; will private parties want claims managed by States or will they prefer self control ?

SOME OF THE BENEFITS OF THE TREATIES

- There is a link between the OST 1967 and the subsequent treaties so that even where the subsequent treaties have not been ratified, ratification by a State of the OST indicates a commitment to issues addressed there and further elaborated in the subsequent treaties;
- With some exceptions e.g. the Moon Agreement, there has been almost universal acceptance of the Treaties by the space-faring nations;
- The Treaties provide public interest protection for damage on the surface of the Earth or to aircraft in flight;
- They do provide for State liability in case of operator default or non existence at time of occurrence;
- They do provide long tail liability, without a time limitation defence (save following an occurrence);
- They have provided a reference point for registration and licensing of space activities at State level;
- The Liability Convention provides that its invocation would not stand in the way of any claim for the same event being pursued “in the courts or administrative tribunals or agencies of a Launching State”;

THE CURRENT SPACE RISK ENVIRONMENT (1)

- The legacy of near 5000 launches made by all space faring nations.
- The reliability of launch vehicles and of satellite performance;
- The capital values in space assets are large but nothing compared to the values of terrestrial assets;
- The widespread distribution of satellites around the GEO ring;
- The existence of data sharing amongst major commercial operators of GEO satellites;
- The rarity of collisions involving space objects and none with an aircraft in flight;
- The ability of States to de orbit space objects without terrestrial damage e.g. MIR space;
- The absence of commercial operator financial default;
- The availability of adequate and affordable liability insurance;
- The existence of a scheme of State legal liability.

THE CURRENT SPACE RISK ENVIRONMENT (2)

- The experience of satellites subject to a loss of control;
- The increasing dependencies on space derived data / the commercialisation of space;
- The potential for large exposures for failed business plans, loss of property and other liability;
- The use of space for military purposes;
- The growth of many types of space debris and the existence of geopotential wells of debris concentration the need for debris mitigation and growing calls for debris removal to avoid a cascade of collisions;
- The potential for relative physical congestion in the GEO ring;
- The LEO risks; and
- The short term nature of insurance / the long term nature of the liability exposure.

WHAT MAY THE FUTURE BRING ? (1)

- When will there be an occurrence of note involving significant damage and how will the parties react ?
- Will there be a new assessment of the long tail nature of liability exposure ?
- Will States maintain / change licensing criteria ?
- What recourse in an appropriate case would there be to liability outside of the international instruments ?
- How will the international community deal with the actions of rogue states?
- New risks: How to deal with the threat of cyber attacks on space-based systems by states or criminal groups?

WHAT MAY THE FUTURE BRING ? (2)

- What law might be applied outside of the Liability Convention; could major commercial operators face a 'market share' liability in USA for damage caused e.g. by debris?
- Could there be new taxes?
- Will the Liability Convention be amended?
- What new rules for dispute resolution? e.g. See: Optional rules for arbitration of disputes relating to outer space activities.
- How will issues relating to new space-based activities and applications e.g. suborbital space tourism and liabilities from the operation of global navigation systems, be addressed?
- Will COPUOS and the UN remain as the law makers for space activities?

OTHER INTERNATIONAL RULES, PROTOCOLS, GUIDELINES, CODES OF CONDUCT ETC

- EU draft Code of Conduct for Outer Space Activities – 2008.
- Unidroit Protocol on Mobile Space Assets 2012 (not yet ratified).
- Permanent Court of Arbitration (PAC) in 2011 issued “Optional Rules for Arbitration of Disputes Relating to Outer Space Activities”.
- 2002 Inter-Agency Space Debris Coordination Committee (IADC) issued guidelines re Space Debris.
- 2007 Scientific and Technical Subcommittee (STSC) of the UN COPUOS adopted a consensus set of space debris mitigation guidelines.
- 2010 International Telecommunications Union (ITU) recommendations that before end of operational life satellites should be boosted into a safe “graveyard” orbit.
- Possibility of Unidroit elaborating a Protocol with respect to TPL issues relating to operation of global navigation systems.

NATIONAL SPACE LEGISLATION AND REGULATION

- Article VI of the Outer Space Treaty of 1967 introduced the need for appropriate national legislation in respect of private space activity without defining what that should be.
- A number of States (20+) have enacted legislation governing the space activities of their nationals and to license space activities.
- The principal purpose of such legislation is to ensure that the State Party can implement its own obligations under the UN International Treaties.
- There has been a significant increase in the number of commercial space activities and recognition of the strategic importance of space activities both for security and for commercial reasons.

NATIONAL SPACE LEGISLATION AND REGULATION (2)

- In recent years many States have enacted new legislation or have announced an intention to amend existing legislation. This has often been motivated by the perceived need to create a favourable environment for general commercial space activities.
- New space activities such as space tourism and further developments in satellite based navigation systems raise new liability issues and may necessitate updating of national legislation in this respect.
- Also, the increasing use of Earth Observation information as evidence in legal and administrative proceedings is likely to lead to legislation at national level with regard to the introduction of standards and certification (this already exists in some States).

ILA MODEL LAW FOR NATIONAL LEGISLATION

- In 2012 the International Law Association (ILA), an international non-governmental international body, adopted guidelines for a “Model Law for National Space Legislation” ("the Sofia Guidelines").
- The model law could provide a useful reference for States considering adopting legislation at national level or considering amendments to existing legislation.
- As with most guidelines for laws of this type it is a statement of broad principles and requirements. Detailed requirements and operational procedures then need to be elaborated in the form of associated rules , regulations and procedures which can be more readily amended and updated in future.

THE UK OUTER SPACE ACT 1986 (1)

- “ An Act to confer licensing and other powers on the Secretary of State to secure compliance with the international obligations of the United Kingdom with respect to the launching and operation of space objects and the carrying on of other activities in outer space by persons connected with this country”.
- Act extends to England and Wales, Scotland and Northern Ireland. Also, subsequently, by Order in Council it applies to the Channel Islands, the Isle of Man and dependent territories.
- There are fifteen sections. The scope is to prohibit space activities (as defined) without a licence, to set out criteria for the grant of a licence, the terms of a licence, to establish a Registry of space objects, to create offences, to provide for means of enforcement, to provide for subsidiary regulations, to introduce an obligation to indemnify HMG against claims.

THE UK OUTER SPACE ACT 1986 (2)

- The Act applies to the :
  - Launching or procuring the launch of a space object;
  - Operating a space object; and to
  - Any activity in outer space

  By:

  - UK nationals
  - Scottish firms
  - Bodies incorporated under UK law.

UK OUTER SPACE ACT 1986 (3)

- Section10 requires a licensee to indemnify the government against any claims made against the government in respect of damage or loss arising out of activities carried out by the licensee. This liability can be unlimited. The extent of the indemnity distinguishes the UK from other space-faring nations. (Other countries specify limits of liability, which vary).
- Act provides for there to be supplementary regulations defining the content and form of licence applications, the procedure for applying for and granting of licences, applicable time limits, payments etc.
- Section 5 sets out the terms of a licence. The activities, the licence period, the conditions. There are provisions regarding the conduct of operations: the avoidance of contamination of outer space and of interference with the activities of others: the avoidance of breach of international obligations of the UK also a requirement for the licensee to “insure himself against liability incurred in respect of damage or loss suffered by third parties”. (There is no specific reference to the amount of required insurance being specified in separate regulations but this is implicit.) End of life conditions.

UK OUTER SPACE ACT 1986 (4)

- UKSA administers the licensing activities on behalf of HMG. Once a licence is granted licensees are obliged to:
  - Permit reasonable access to documents and inspection and testing of facilities and equipment by UKSA
  - Inform UKSA of any changes in licence activities and seek approval
  - Prevent contamination of outer space and earth's environment
  - Avoid interference in activities of others
  - Avoid breach of UK's international obligations
  - Preserve national security of UK
  - Insure against TPL for launch and in-orbit ops (UK Gov. to be named as additional insured)

- Innovation and Growth Strategy (IGS) report of February 2010 recommended that the "unlimited liability" indemnity (of HMG) requirement be amended to provide a specified limit of liability to create a "level playing field ".

UK OUTER SPACE ACT (5)
AMENDMENT OF OSA

- In 2011, citing a need to create a “level playing field”, the Chancellor and the Minister for Space announced plans to remove the unlimited liability and to set new reduced requirements for the amount of launch and in-orbit insurance (consistent with a general UK objective to promote commercial space activities). This was achieved by the Deregulation Act 2015 which amended the OSA for new applications w.e.f. 1 October 2015. New indemnity limit of €60 million per satellite.

- On 21 February 2017 HMG published a draft Spaceflight Bill for the launching of space flights in the UK and the operation of a UK space port. (The OSA will otherwise continue to apply to other – outside UK – activities).

- On 30 June 2017 HMG introduced a draft Space Industry Bill. New draft liability and indemnity provisions currently under scrutiny in Parliament. Strict liability of operator in UK. Possibility for HMG to indemnity operator liability above insurance requirements. (No financial limit expressed on extent of indemnity to HMG and others).

SOME OTHER NATIONAL SPACE ACTS (1)

- Since 2007, there has been a flurry of activity. South Korea, The Netherlands, Belgium, France and Austria have amended their Space Acts. UK, Germany and USA have initiated processes to amend existing provisions.
- Main motivation seems to have been to ensure that industry of the State concerned is well-positioned to pursue commercial opportunities for space activities.
- Whilst the UK was the only State to have licensees subject to unlimited liability, the levels of liability set by different States do vary significantly. (UK limit of Euro 60M seems to follow example of France)
- So far, only the USA seems to have introduced new legislation to provide for space tourism.

SOME OTHER NATIONAL SPACE ACTS (2) – LIABILITY PROVISIONS

- France amended its Space Act in 2010, primarily to formalise the practice that had been followed for many years. The Government assumes liability for damages above Euro 60M (although in specific cases it could be higher). This is of particular relevance because of the role of Arianespace as launch service provider utilising the Ariane Vega and Soyuz launchers from Kourou.(ESA takes responsibility for the insurance of test flights of these launchers and assumes TPL liability for damages above Euro 60M when an ESA payload is launched from Kourou on one of those launchers.)
- For the following States the required TPL insurance level is as indicated with the Govt. assuming liability for damages in excess of the insured amount:
  - Japan - $166M
  - Russia - $300M
  - China - $100M

THE US COMMERCIAL SPACE LAUNCH ACT (CSLA) (1)

- The CSLA is the cornerstone of the regulation in the USA of commercial space activities. It was signed into law in 1984 under President Reagan. It was amended in 2004.
- CSLA provides for regulation by the Department of Transportation (DOT) Office of Space Transportation.
- The present Act requires US licensees to insure in respect of TPL for an amount of up to $500M and up to $100M for damage to US government property with a Government indemnity of up to $1.5bn and the licensee assuming liability for the excess of claims above that level. (There are requirements relating to categories of persons insured and for reciprocal waivers of liability.)
- In June 2012 The US Government Accountability Office (GAO) issued a report reviewing these provisions, making a comparison with the equivalent provisions in China, France and Russia and suggesting that US firms should benefit from similar provisions. This suggestion is under consideration.

Beirut Brussels Dubai Geneva Hong Kong Houston Kuwait London Melbourne Paris Perth Piraeus Riyadh São Paulo Shanghai Singapore Sydney