Liability for damage caused by small satellites – a non-issue?

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Liability in space law

- 1967 Outer Space Treaty (OST)
  - Art. VII – specific on liability
  - Art. VI – generic on responsibility
- 1972 Liability Convention (LC)
  - Elaborates Art. VII, OST
- National law
  - Following state liability at international level required for domestic implementation vis-à-vis private operators – mainly by way of licensing
Liability for damage caused by space activities attaches to ‘object launched into outer space’ / ‘space object’ causing such damage

- Liability rests with ‘launching State(s)’
- Absolute liability versus fault liability
- In principle no limit to compensation

Are small satellites included?
What is a ‘space object’?

1. **LC: ‘component parts’**
   - Generally perceived to include ‘space debris’
   - ‘Size’ does not seem to matter

2. **Authors: ‘launched’ ‘into outer space’**
   - Or at least ‘attempted to be launched’
   - At least traditionally was not seen as presenting problems – all known satellites easily fit the bill, both in terms of ‘launch’ & in terms of ‘into outer space’
What are ‘small satellites’?

- No **legal** definition – no treaty reference

↔ Number of general assumptions – *currently*

- Operate in (very) low earth orbits – or even in sub-orbital trajectories ↔ but later …?
- Operate for short periods only (as related to altitudes) ↔ but later …?
- Are ‘unguided’ / ‘uncontrollable’ – almost like ‘space debris’ ↔ but if lack of control over space debris (soon) may not take away liability anymore, how about such **functional** small space objects?
- Would not survive re-entry ↔ but damage ‘in space’?

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Challenges to definitions

On ‘launch’:
- Air-launched satellites? Sub-orbital spaceflight?
- ‘Launch’ developing from a specific technical/operational to a more general criterion: ‘bringing an object into outer space’?

On ‘into outer space’
- Sub-orbital flight to altitudes of just > 100 km
- Discussion on whether there SHOULD be a legal boundary between air space & outer space, & WHERE such a boundary would then have to be
My take on this …

- YES – AT A 100 KM ALTITUDE

  - Legal perspective: increasing convergence
    - *P.M.* Various private organizations & operators
    - Various Russian proposals in UN context, incl. German & Pakistani answers to questionnaires
    - Draft Russo-Chinese treaty ‘de-weaponization’ space
    - National laws: Australia, Isle of Man
    - EU definition of ‘space qualified’ technology

  - Policy perspective: desirable for clarity
    - Otherwise uncertainty as to applicability LC to low-orbiting & sub-orbital (small) satellites
Otherwise …

- **Applicability LC?**
  - Each time arguments: ‘object intended to be launched into outer space’?
  - Victims may seek alternative remedies:
    - Art. VI, OST: ‘reparation’ would be due for ‘national activities in outer space’ if in violation of OST / by proxy all of international space law, incl. material compensation if violation results in damage
    - General principles international law; *sic utere tuo ut alienum non laedas*; Trail Smelter arbitration
    - National law remedies …
National space laws (1)

- Liability through license

- Indirect references (1)
  - United States
    - Separates launch & satellite operations
      - Skirts issue of delimitation: licenses required also for air launched & sub-orbital, & regardless of size, as long as considered (ultimately) aimed at outer space
  - Sweden (1982 Act)
    - Excludes ‘merely receiving signals or information’ & ‘sounding rockets’ from scope

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Indirect references (2)

- **South Africa (1993 Act)**
  - Distinguishes between ‘sub-orbital trajectory’ & ‘into outer space’ (defined as per lowest perigee) – but does not principally differentiate in application

- **Australia (1998/2002 Act)**
  - ‘Launch’ defined with reference to 100 km minimum altitude – decisive for applicability

- **Brazil (2001 Edict & Regulation)**
  - Distinguishes between ‘orbital’ & ‘sub-orbital payloads’ – but does not differentiate
Indirect references (3)

- Belgium (2005 Law)
  - Limits scope to ‘launching, flight operations & guidance of space objects’

- Netherlands (2007 Act)
  - Limits scope to ‘launch, flight operation & guidance of space objects’ – *but now under scrutiny!*

- Austria (2011 Law)
  - Limits scope to ‘launch, operation & control of a space object’ – ‘control’ seems to echo ‘guidance’ …?
National space laws (4)

No relevant reference whatsoever to size, only to ‘launch’ into ‘outer space’

- Norway (1969 Act); United Kingdom (1986 Act); Russia (1993 Law); Ukraine (1996 Law); South Korea (2005 & 2007 Acts); France (2008 Law); Kazakhstan (2012 Law)

- Individual exceptions however possible, e.g. in case not necessary from perspective of international obligations, public policy or safety licensing state
Conclusions

- Small satellites included in LC
  - As far as ‘launch’ & ‘into outer space’ apply
  - Half of national space laws do not even completely agree there …
  - De facto risks may be of different size – at least currently; future may well look different
  - Many national laws allow for fine-tuning to risks

- Certainly not a non-issue …
  - Further clarification / harmonization desirable …