

Overview of existing space laws relevant for SMPAG

Dr. Peter Stubbe

6th SMPAG Meeting, 16 February 2016

Knowledge for Tomorrow



Content

1. Background
2. Duty to warn
3. Admissibility of NEO mitigation
4. Liability for damage caused by NEO mitigation
5. Conclusion



Background

- Hazard associated with NEOs:
 - Mass extinction of life on Earth
 - Catastrophic damage to life, environment and property
- Mitigation measures: deflection or destruction of NEOs
 1. Kinetic impactor
 2. Gravity tractor
 3. Nuclear explosion
- Purpose of NEO mitigation measures: minimize the threat to our civilization from impacts of asteroids and comets



Duty to warn (1)

Space law

Art. XI OST

“In order to promote international co-operation in the peaceful exploration and use of outer space, States Parties [...] **agree to inform** the Secretary-General of the United Nations as well as the public and the international scientific community [...] of the nature, conduct, locations and **results** of such activities. [...]”

Art. 5 para. 3 MOON

“In carrying out activities under this Agreement, States Parties shall **promptly inform** the Secretary-General, as well as the public and the international scientific community, of any **phenomena** they discover in outer space, including the moon, which could **endanger human life or health**, as well as of any indication of organic life.”

Scope of application: Information obtained as a consequence of space activities



Duty to warn (2)

Other international law

Environmental law: Principle XVIII Rio Declaration (1992)

“States shall **immediately notify** other States of any **natural disasters or other emergencies** that are likely to produce sudden harmful effects on the environment of those States. [...]”

Human rights law:

Art. 6 para. 1 International Covenant on Civil and Political Rights

“Every human being has the **inherent right to life**. [...]”

Art. 11 para. 1 International Covenant on Economic, Social and Cultural Rights

“[...] right of everyone to an **adequate standard of living** [...] and to the continuous **improvement of living conditions**.”

Art. 55/56 UNC

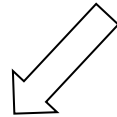
International cooperation for the promotion of human rights



Admissibility of NEO mitigation (1)

Legal Status of NEOs

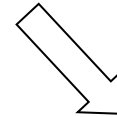
NEOs are natural physical things occurring in the universe
(examples: asteroids, comets, meteoroids)
i.e. **celestial bodies**



res communis

(area beyond national jurisdiction)

- Legal regime: Outer Space Treaty
- High ratification status of OST/
customary law



common heritage of mankind (CHM)

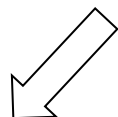
(area beyond national jurisdiction)

- Legal regime: Moon Agreement
- Low ratification status of MOON

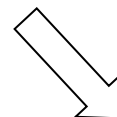


Admissibility of NEO mitigation (2) Environmental protection of NEOs

Environmental protection is constitutional element of regimes governing
res communis and CHM areas



res communis



common heritage of mankind

- Art. IX OST: “avoid harmful contamination”
 - Art. 7 para. 1 MOON: “prevent the disruption of the existing balance of [the] environment.”
 - ‘no harm’ rule (customary law): prohibition of transboundary environmental harm (applicable to areas beyond natural jurisdiction)
- NEO mitigation measures could result into damage to the NEO environment, i.e. into a **violation of international law**



Admissibility of NEO mitigation (3)

Restrictions on the use of nuclear weapons/explosions

Norm	Prohibition
Art. IV OST	Install WMD on celestial bodies (para. 1) Test any type of weapon on celestial bodies (para. 2)
Art. 3 para. 3 MOON	Place or use nuclear weapons on the Moon Place nuclear weapons in or around Moon or in trajectory to Moon
Art. I para. 1 PTBT	Nuclear explosions, among others in outer space
Art. I para. 1 CTBT	Nuclear explosions at any place

→ NEO mitigation measures involving the use of nuclear weapons constitutes a **violation of international law**



Admissibility of NEO mitigation (4)

Circumstances precluding wrongfulness

Condition for international responsibility

Violation of international law = **internationally wrongful act**

Exclusion of wrongfulness

- Distress (Art. 24 ILC Articles on State Responsibility)
“[...] if the author of the act in question has no other reasonable way, in a situation of distress, of **saving the author’s life or the lives of other persons** entrusted to the author’s care.”
 - Necessity (Art. 25 ILC Articles on State Responsibility)
“[if the act is] the only way for the State to **safeguard an essential interest against a grave and imminent peril** [...]”
- Wrongfulness of internationally wrongful act excluded



Admissibility of NEO mitigation (5)

Decision or Authorization by UN Security Council

Broad competence

- Primary responsibility for maintenance of international peace and security (Art. 24 UNC)
- Decide or authorize (non-military and military) measures (Art. 41/42 UNC)
- Binding force of decisions (Art. 25 UNC)

Condition: Threat to or breach of peace (Art. 39 UNC)

- Wide discretion (humanitarian crisis, massive environmental degradation etc.)

→ Security Council could:

- Qualify NEO as threat to peace
- Decide or authorize any appropriate NEO mitigation measure



Liability for damage caused by NEO mitigation

Reparation for injury

Condition: Internationally wrongful act
(Part II, Chapter II ILC Articles on State Responsibility)

Possibly relevant obligations:

- Norms protecting the NEO environment
- Norms prohibiting use of nuclear weapons/nuclear explosions
- 'No harm' rule

Circumstances precluding wrongfulness: distress and necessity

- But: continued duty of compensation for material damage
(Art. 27 ILC Articles on State Responsibility)

→ Security Council decision/authorization could include exemption from liability



Conclusion

Preliminary results:

- Duty to warn exists
- NEO mitigation measures potentially violate international law

But: Wrongfulness excluded (distress/necessity)

Decision/authorization by Security Council

Possible way forward:

- Detailed examination of legal questions necessary
- Involvement of General Assembly (i.e. COPUOS)
 - may address NEO issue (Art. 1 para. 3, Art. 10 UNC)
 - Make recommendations to Member States and Security Council



Thank you for your attention.

peter.stubbe@dlr.de

