Harmful Interference to Satellite Communications: When Law of Armed Conflict Applies?

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Outline

1. Introduction
2. Principle of Harmful Interference Prohibition in ITU Law
3. Principles related to Harmful Interference in Space Law
4. The Conditions to Apply LOAC to Harmful Interference
5. ITU’s Initiatives for Cybersecurity
6. Conclusion
I. Introduction

Potential Threats to Satellite Communications are:

**Kinetic**
- Anti-Satellite Test by Ballistic Missiles  
  [not illegal after the invalidation of the 1972 ABM Treaty]  
  e.g. 1950s US&Russia, 2007 China, 2019 India

**Non-Kinetic**
- Jamming  [legal within sovereign territory, territorial sea/airspace]
- Laser  
  [legal if conducted under UNC Chapter VII or Art. 51 “self-defence”]
- Cyber Operations (attack, terrorism, crime)  
  [illegal under ITU law]  
  [legal if conducted under UNC Chapter VII or Art. 51 “self-defence”]

remind that, any ways of dysfunctioning space object result into creating space debris that endanger all states’ space activities
I. Introduction

The Scope of Presentation

Harmful Interference to Satellite Communications which are subject to ITU regulatory framework

+ Conditions for applying Law of Armed Conflict to HI above
2. Principle of Harmful Interference Prohibition in ITU Law

- ITU Law: ITU Constitution and Convention + Administrative Regulations (i.e. Radio Regulations)
  - Each state has the sovereign right to “regulate” its telecommunication

- Principle of Harmful Interference Prohibition
  - Art. 45
    not to cause any harmful interference to the radio services or communications of other member states or of operating agencies when they establish and operate any radio services or communications
  - Art. 48 (exception)
    Ensures states for “entire freedom” in military radio installations, but requires to follow the existing regulation in case of public correspondence
2. Principle of Harmful Interference Prohibition in ITU Law

Definition:

◆ 1.166 “interference”
“[T]he effect of unwanted energy due to one or combination of emission, radiations upon reception in a radiocommunication system”

◆ 1.169 “harmful interference”
“[I]nterference which endangers the functioning of a radionavigation service or of other safety services [...] seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service [...]”

ITU Radio Regulations, Section VII- Frequency Sharing
3. Principle related to Harmful Interference in Space Law

Article III leaves possibility to allow harmful interference in the case of self-defense (Art. 51) or collective security (Chapter VII)

Article IV (2) leaves the definition “peaceful” vague
- US: “non-aggressive”
- Russia: “non-military”
- Japan: between “non-aggressive” and “non-military”

Article IX only provides an opportunity for diplomatic consultation
4. The Conditions to Apply LOAC to Harmful Interference

✓ Condition: *armed conflict exists already*

✓ When HI was caused... (in theory)
  in the *context* of armed conflict
  by *a party* to the armed conflict
  in order to *contribute* to military efforts
  to interrupt *humanitarian assistance*

However..... (in practice), challenges are:
  to apply LOAC to harmful interference
  which are caused by *cyber operation*
  *(cyber attack/terrorism/crime)*
5. ITU’s Initiatives for Cybersecurity

If harmful interference is caused by cyber operations, it is difficult to identify:
the right **IP address** to find the original attacker
the **timing** when cyber operations started
intangible targets and weapons

◆ ITU recommends its member states to ratify
the Budapest Convention on Cybercrime of 2001
“to criminalize cybercrime by requiring states parties
to establish cyber offence by adopting / building their domestic law
in line with human rights treaties”

Articles 2-8: (illegal access; illegal interception; data interference;
system interference; misuse of device;
computer-related forgery; and computer-related fraud)
6. Conclusion

✓ Causing Harmful interference is already prohibited by ITU law, and the Law of Armed Conflict (LOAC) is applicable under certain conditions.

✓ However, in practice, HI caused by cyber operations leaves problems to the applicability.

✓ As satellite communication is part of outer space activities, Transparency and Confidence-Building Measures (TCBMs) need to be considered in the context of harmful interference to satellite communications.

✓ In order to detect the use of force in outer space, monitoring mechanisms by using data obtained from Space Situational Awareness (SSA) and Space Surveillance Network (SSN) need to be considered.
Thank you

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