

COPUOS Scientific and Technical Subcommittee Activities

Working Group on the Long-term Sustainability of Outer Space Activities

Report to IAA Space Debris Committee March 27, 2018

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Guidelines prepared by 4 expert groups 2012(11) – 2014:

- **Expert group A**
" Sustainable space utilization supporting sustainable development on Earth "
- **Expert group B**
" Space debris, space operations and tools to support collaborative space situational awareness "
(3 formal, 3 informal meetings, each 2–5 days)
 - 8 Guidelines
 - 3 topics for further consideration by STSC
- **Expert group C**
" Space Weather "
- **Expert group D**
" Regulatory regimes and guidance for actors in the space arena "

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LTSSA Working Group 2014 – Feb. 2018:

- **First Set of Guidelines agreed by COPUOS June 2016**
12 guidelines
A/71/20 Annex (Report of the Committee on the Peaceful Uses of Outer Space. Fifty-ninth session (June 8th–17th 2016))
- **Full Compendium of Guidelines by June 2018**
(LTSSA Work Plan)
 - to coincide with UNISPACE+50
 - UNISPACE+50 Thematic priority 3:
Enhanced information exchange on space objects and events
- **Proposal for new expert group**
Expert Group on Space Objects and Events

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LTSSA Working Group 2014 – Feb. 2018: (cont.)

- **Status (after STSC February 2018)**
 - Consensus on preambula
 - 9 additional guidelines approved by the Working Group
 - 7 guidelines with no consensus (still to be discussed)!
 - No consensus on WG final report
 - No consensus on way forward (after end of WG mandate in June 2018)

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First Set of Guidelines

A. Policy and regulatory framework

- **Guideline 1**
Adopt, revise and amend, as necessary, national regulatory frameworks for outer space activities
- **Guideline 2**
Consider a number of elements when developing, revising or amending, as necessary, national regulatory frameworks for outer space activities
- **Guideline 3**
Supervise national space activities
- **Guideline 4**
Ensure the equitable, rational and efficient use of the radio frequency spectrum and the various orbital regions used by satellites

B. Safety of space operations

- **Guideline 12**
Improve accuracy of orbital data on space objects and enhance the practice and utility of sharing orbital information on space objects

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First Set of Guidelines (cont.)

- **Guideline 13**
Promote the collection, sharing and dissemination of space debris monitoring information
- **Guideline 16**
Share operational space weather data and forecasts
- **Guideline 17**
Develop space weather models and tools and collect established practices on the mitigation of space weather effects

C. International cooperation, capacity-building and awareness

- **Guideline 25**
Promote and support capacity-building
- **Guideline 26**
Raise awareness of space activities

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First Set of Guidelines (cont.)

D. Scientific and technical research and development

- **Guideline 27**
Promote and support research into and the development of ways to support sustainable exploration and use of outer space
- **Guideline 28**
Investigate and consider new measures to manage the space debris population in the long term

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2018 Set of Guidelines (Feb 2018)

- **Guideline 6:**
Enhance the practice of registering space objects
- **Guideline 11:**
Provide updated contact information and share information on space objects and orbital events
- **Guideline 14:**
Perform conjunction assessment during all orbital phases of controlled flight
- **Guideline 15:**
Develop practical approaches for pre-launch conjunction assessment
- **Guideline 23:**
Promote and facilitate international cooperation in support of the long-term sustainability of outer space activities

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2018 Set of Guidelines (Feb 2018; cont.)

- **Guideline 24:**
Share experience related to the long-term sustainability of outer space activities and develop new procedures, as appropriate, for information exchange
- **Guideline 30:**
Design and operation of space objects regardless of their physical and operational characteristics
- **Guideline 31:**
Take measures to address risks associated with the uncontrolled re-entry of space objects
- **Guideline 32:**
Observe measures of precaution when using sources of laser beams passing through outer space

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Guidelines with no consensus (February 2018)

- **Guideline 7**
Provide, in national legal and/or policy frameworks, for a commitment to conducting space activities solely for peaceful purposes
- **Guideline 18+19**
Ensure the [safety and security] [protection] of terrestrial infrastructure that supports the operation of orbital systems
- **Guideline 20+21+part of 22**
Observe procedures for preparing and conducting operations on active removal [and intentional destruction] of space objects
- **Guideline 22**
Develop procedures for outer space activities involving non-registered objects

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Guidelines with no consensus (February 2018, cont.)

- **Guideline 8**
Implement operational and technological measures for the safe conduct of close proximity space operations
- **Guideline 10**
[Version1 for Guideline 10]
Implement measures for the safe conduct of activities involving intentional modification of the natural space environment

[Version2 for Guideline 10]
Avoid negative side effects in connection with the use of natural space environment modification techniques for peaceful purposes
- **Guideline 9**
[Alternative 1 for the title]
Raise awareness of the need to exclude the use of information and communications technology products compromising safety and security of space objects and related equipment

[Alternative 1 for the title]
Consider measures to address the issue of precluding malicious use of information and communications technology to compromise the safety and security of space objects and related equipment