United Nations A/AC.105/C.1/L.386

General Assembly

Distr.: Limited
22 April 2021

Original: English

Committee on the Peaceful Uses of Outer Space
Scientific and Technical Subcommittee
Fifty-eighth session
Vienna, 19–30 April 2021

Draft report

I. Introduction

1. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space held its fifty-eighth session at the United Nations Office at Vienna from 19 to 30 April 2021, in hybrid format (in person and online), with Natália Archinard (Switzerland) as Chair.

2. The Subcommittee held […] meetings.

A. Attendance

3. Representatives of the following 78 States members of the Committee attended the session: Algeria, Argentina, Armenia, Australia, Austria, Azerbaijan, Bahrain, Belarus, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Costa Rica, Cuba, Cyprus, Czechia, Denmark, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Finland, France, Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Israel, Italy, Japan, Jordan, Kenya, Lebanon, Luxembourg, Malaysia, Mexico, Morocco, Netherlands, New Zealand, Nicaragua, Norway, Oman, Pakistan, Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Singapore, Slovakia, South Africa, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Syrian Arab Republic, Thailand, Tunisia, Turkey, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United States of America, Uruguay and Venezuela (Bolivarian Republic of).

4. Observers for the Food and Agriculture Organization of the United Nations (FAO), the International Telecommunication Union (ITU), the United Nations Industrial Development Organization, the United Nations Institute for Disarmament Research (UNIDIR), the International Atomic Energy Agency (IAEA) and the Office for Disarmament Affairs of the Secretariat attended the session.

5. The session was attended by the observer for the European Union as permanent observer of the Committee and in accordance with General Assembly resolution 65/276 of 2011.

6. The session was attended by observers for the following intergovernmental organizations having permanent observer status with the Committee: Asia-Pacific

Space Cooperation Organization (APSCO), European Southern Observatory (ESO), European Space Agency (ESA), European Telecommunications Satellite Organization, Inter-Islamic Network on Space Sciences and Technology (ISNET), International Organization of Space Communications (Intersputnik) and Regional Centre for Remote Sensing of the North African States (CRTEAN).

7. The session was attended by observers for the International Asteroid Warning Network (IAWN) and the Space Mission Planning Advisory Group (SMPAG), in accordance with the agreement of the Subcommittee at its fifty-third session (A/AC.105/1109, para. 182).

8. The session was attended by observers for the following non-governmental organizations having permanent observer status with the Committee: CANEUS International, Committee on Space Research (COSPAR), For All Moonkind, International Association for the Advancement of Space Safety (IAASS), International Astronautical Federation (IAF), International Astronomical Union (IAU), International Space University (ISU), Moon Village Association, National Space Society (NSS), Prince Sultan Bin Abdulaziz International Prize for Water (PSIPW), Scientific Committee on Solar-Terrestrial Physics (SCOSTEP), Secure World Foundation (SWF), Space Generation Advisory Council (SGAC), University Space Engineering Consortium-Global (UNISEC-Global) and World Space Week Association (WSWA).

9. A list of the representatives of States, United Nations entities and other international organizations attending the session is contained in document A/AC.105/C.1/2021/INF/[…].

10. The Subcommittee was informed by the Secretariat of the applications for membership in the Committee submitted by Bangladesh (A/AC.105/C.1/2021/CRP.3) and Slovenia (A/AC.105/C.1/2021/CRP.22), which were to be considered by the Committee at its sixty-fourth session, in 2021.

11. The Subcommittee was also informed by the Secretariat of the applications for permanent observer status with the Committee submitted by the International Institute for the Unification of Private Law (Unidroit) (A/AC.105/C.1/2021/CRP.9) and the Open Lunar Foundation (A/AC.105/C.1/2021/CRP.11), which were to be considered by the Committee at its sixty-fourth session, in 2021.

B. Adoption of the agenda

12. At its 935th meeting, on 19 April, the Subcommittee adopted the following agenda:

1. Adoption of the agenda.
2. Statement by the Chair.
3. General exchange of views and introduction of reports submitted on national activities.
4. United Nations Programme on Space Applications.
5. Space technology for sustainable socioeconomic development.
6. Matters relating to remote sensing of the Earth by satellite, including applications for developing countries and monitoring of the Earth’s environment.
7. Space debris.
8. Space-system-based disaster management support.
9. Recent developments in global navigation satellite systems.
10. Space weather.

11. Near-Earth objects.

12. Long-term sustainability of outer space activities.

13. Future role and method of work of the Committee.

14. Use of nuclear power sources in outer space.

15. Space and global health.

16. Examination of the physical nature and technical attributes of the geostationary orbit and its utilization and applications, including in the field of space communications, as well as other questions relating to developments in space communications, taking particular account of the needs and interests of developing countries, without prejudice to the role of the International Telecommunication Union.

17. Draft provisional agenda for the fifty-ninth session of the Scientific and Technical Subcommittee.

18. Report to the Committee on the Peaceful Uses of Outer Space.

C. General statements

[*The text of this subsection is contained in document A/AC.105/C.1/L.386/Add.4*]

D. National reports

13. The Subcommittee took note with appreciation of the reports by Member States (see A/AC.105/1238, A/AC.105/1238/Add.1, A/AC.105/1238/Add.2 and A/AC.105/1238/Add.3) and of the conference room papers (A/AC.105/C.1/2021/CRP.4 and A/AC.105/C.1/2021/CRP.18) submitted for its consideration under agenda item 3, entitled "General exchange of views and introduction of reports submitted on national activities". The Subcommittee recommended that the Secretariat continue to invite Member States to submit annual reports on their space activities.

E. Symposium

14. In accordance with the agreement reached by the Subcommittee at its forty-fourth session, in 2007 (A/AC.105/890, annex I, para. 24), and the decisions and actions by the Committee and its Legal Subcommittee taken by written procedure (see A/75/20), a symposium organized by IAF on the topic of human spaceflight was held on 27 April 2021.

15. The symposium, entitled "Global views on human space exploration", comprised two segments. The first segment, on 60 years of human spaceflight achievements, was co-moderated by Simonetta Di Pippo, Director of the Office for Outer Space Affairs, and Christian Feichtinger, Executive Director of IAF. The speakers on the first panel were Jean-Yves Le Gall of IAF, Sergey Krikalev of the State Space Corporation "Roscosmos" of the Russian Federation, John M. Logsdon of George Washington University, Lin Xiqiang of the China Manned Space Agency (CMSA), Thomas Reiter of ESA and Mika Ochiai of the Japan Aerospace Exploration Agency (JAXA).

16. The second segment, on looking ahead to the next 60 years, was co-moderated by Pascale Ehrenfreund, President of IAF, and Sergey Saveliev, Deputy Director General for International Cooperation of Roscosmos. The speakers on the second panel were Kathryn L. Lueders of the National Aeronautics and Space Administration (NASA) of the United States, Xiaojun Wang of the China Academy of Launch Vehicle Technology (CALT), Dimitry Loskutov of the joint stock company Glavkosmos of

the Russian Federation, Lisa Campbell of the Canadian Space Agency (CSA), S. Somanath of Indian Space Research Organization (ISRO), Andreas Lindenthal of Airbus Defence and Space GmbH, and Kate Watts of Lockheed Martin Space Systems Company.

17. The Subcommittee noted with satisfaction that the symposium had contributed to the work of the Subcommittee and to raising awareness of issues concerning inclusiveness in space activities.

F. Adoption of the report of the Scientific and Technical Subcommittee

18. After considering the items before it, the Subcommittee, at its […] meeting, on […] 2021, adopted its report to the Committee on the Peaceful Uses of Outer Space, containing its views and recommendations, as set out in the paragraphs below.

XII. Use of nuclear power sources in outer space

19. In accordance with General Assembly resolution 75/92, the Subcommittee considered agenda item 14, entitled “Use of nuclear power sources in outer space”.

20. The representatives of China, Indonesia, Mexico, the Russian Federation, the United States and Venezuela (Bolivarian Republic of) made statements under agenda item 14. During the general exchange of views, statements relating to the item were also made by representatives of other member States.

21. The Subcommittee heard a scientific and technical presentation by the representative of China entitled “Aerodynamic characteristics analysis of radioisotope nuclear sources”.

22. The Subcommittee welcomed the fact that some States and an international intergovernmental organization were developing, or considering developing, legal and regulatory instruments on the safe use of nuclear power sources in outer space, taking into account the content and requirements of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space and of the Safety Framework for Nuclear Power Source Applications in Outer Space, which was developed jointly by the Subcommittee and IAEA.

23. The view was expressed that it was important to promote international collaboration with a view to promoting the safe use of nuclear power sources in outer space.

24. The view was expressed that the Principles and the Safety Framework provided a comprehensive foundation for supporting the safe use of nuclear power sources in outer space, and that the guidance provided in the Safety Framework enabled new approaches to safety based on continuing advances in knowledge and practice since the adoption of the Principles. Furthermore, the Safety Framework allowed for States and international intergovernmental organizations to devise new approaches based on the expansion of knowledge and best practices gained from experience, and therefore continuously improve safety. The delegation expressing that view was also of the view that, to date, the Working Group on the Use of Nuclear Power Sources in Outer Space had not identified any challenges to implementing the Safety Framework that would require any modifications or additions to it. Thus, the practical application of the Safety Framework satisfied the safety intent of the Principles and therefore provided sufficient guidance to States and international intergovernmental organizations seeking to ensure the safe development and use of nuclear power in space.

25. The view was expressed that the widespread adoption of the Safety Framework would provide assurance to the global community that space nuclear power source applications would continue to be developed, launched and used in a safe manner, and

therefore the implementation at the national level of the Safety Framework should be strongly encouraged.

26. The view was expressed that relevant documents developed under the auspices of the United Nations assisted greatly in the drafting and implementation at the national level of norms relating to the safety of nuclear power sources in outer space, and that the Principles and the Safety Framework, when applied jointly, constituted a sufficient tool for States and international organizations that were planning to develop space nuclear power source applications and use them in strict observance of those instruments and comprehensive security measures. The delegation expressing that view was also of the view that currently there was no need to revise the Principles or the Safety Framework.

27. The view was expressed that, since 1961, nuclear power source applications had been playing a critical role in the exploration of space, enabling missions of scientific discovery to destinations across the solar system, and that their use would be continued on some future space missions.

28. The view was expressed that space activities continued to be of great importance for accomplishing a wide range of promising energy-intensive tasks facing humanity, and that basic research in near and deep space was therefore inextricably linked with the use of nuclear power sources on spacecraft. The delegation expressing that view underlined that nuclear power could be used to accomplish a wide range of promising energy-intensive tasks in near and deep space and make it possible to reach a more advanced level in the development of space activities.

29. The view was expressed that the effects of space nuclear power sources on human life and the environment were still not entirely known, and thus such highly dangerous sources of energy could not be substituted for other sources of energy that could satisfactorily serve the needs of telecommunications, telemedicine, Earth observation and other space-based applications. The delegation expressing that view was also of the view that States were responsible for preserving life and maintaining peace in outer space, and thus they needed to engage in promoting the use of safe and efficient sources of energy while developing and promoting binding standards for the use of space nuclear power source applications, including through their involvement in the Legal Subcommittee.

30. The view was expressed that it was important to conduct space activities for exclusively peaceful purposes, and to avoid placing nuclear weapons in outer space, and therefore it was necessary to promote the prohibition of the use of nuclear weapons both on Earth and in outer space. The delegation expressing that view recalled that, as established in article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, States parties to the Treaty were to undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station weapons in outer space in any other manner. In that connection, the Subcommittee and its Working Group on the Use of Nuclear Power Sources in Outer Space should continue to pay attention to the matter of the use of nuclear energy and its applications in outer space.

31. In accordance with paragraph 5 of General Assembly resolution 75/92, the Subcommittee, at its 935th meeting, on 19 April, reconvened its Working Group on the Use of Nuclear Power Sources in Outer Space, with Sam A. Harbison (United Kingdom) as Chair.

32. The Working Group on the Use of Nuclear Power Sources in Outer Space held […] meetings. At its […] meeting, on […] April, the Subcommittee endorsed the report of the Working Group, which is contained in annex […] to the present report.