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**Committee on the Peaceful
Uses of Outer Space
Legal Subcommittee
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Item 6 of the provisional agenda*
Status and application of the five United Nations
treaties on outer space**

Overview and final summary by the Chair of the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space on the responses from member States and permanent observers of the Committee to the questionnaire on the application of international law to small-satellite activities provided by the Chair and contained in the Report of the Legal Subcommittee on its fifty-sixth session, document A/AC.105/1122 (Annex I, Appendix II), and the Report of the Legal Subcommittee on its sixtieth session, document A/AC.105/1243 (Annex I, Appendix II)

I. Introduction

1. As a conclusion of the work during the sixtieth session of the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space (“the Legal Subcommittee”), the Working Group on the Status and Application of the Five United Nations Treaties on Outer Space (“the Working Group”) agreed that “the Chair of the Working Group, in close consultation with the Secretariat, should present a summary of responses received over the years to the sets of questions as contained in appendices I and II to the present report, to be presented in a conference room paper to the Subcommittee at its sixty-first session, in 2022” (see Report of the Chair of the Working Group, as annexed to the Report of the Legal Subcommittee on its sixtieth session (“report of the Working Group”), document A/AC.105/1243, Annex I, para. 12).

2. The Working Group agreed that States members and permanent observers of the Committee should continue to be invited to provide comments and responses to the questionnaire on the application of international law to small-satellite activities. The questionnaire was attached to the report of the Working Group as an appendix, contained in the Report of the Legal Subcommittee on its fifty-sixth session, document A/AC.105/1122, Annex I, Appendix II, and the report of the Working



Group, document A/AC.105/1243, Annex I, Appendix II. The Working Group furthermore agreed that any replies received would be made available in conference room papers (see report of the Working Group, document A/AC.105/1243, Annex I, para. 11).

3. In its report, the Working Group also reaffirmed that in relation to the questionnaire and the set of questions as contained in Appendices I and II to the report of the Working Group, the issue of large constellations and megaconstellations should continue to receive specific consideration in the responses to both sets of questions (see Report of the Chair of the Working Group, document A/AC.105/1243, Annex I, para. 13). See in this regard also document A/AC.105/C.2/L.322, entitled Registration of large constellations and megaconstellations, Background paper by the Secretariat, which is before the Working Group during the sixty-first session of the Legal Subcommittee.

4. The Working Group has received written contributions under the consideration of the above-mentioned questionnaire on small-satellite activities, which are contained in documents A/AC.105/C.2/2018/CRP.10 and A/AC.105/C.2/2018/CRP.17 submitted during the fifty-seventh session of the Legal Subcommittee in 2018 by Austria, Brazil, Germany, and UNISEC-Global; documents A/AC.105/C.2/2019/CRP.8 and A/AC.105/C.2/2019/CRP.15 submitted during the fifty-eighth session of the Legal Subcommittee in 2019 by Armenia, Brazil, Czechia, and Indonesia; and documents A/AC.105/C.2/2021/CRP.6 and A/AC.105/C.2/2021/CRP.24 submitted during the sixtieth session of the Legal Subcommittee in 2021 by Chile, Morocco, Nicaragua, the Philippines, and Space Generation Advisory Council (permanent observer).

5. The following are the sets of responses received to the questionnaire to date:

(a) Responses to the questionnaire

- i. A/AC.105/C.2/2018/CRP.10 Austria, Germany, UNISEC-Global
- ii. A/AC.105/C.2/2018/CRP.17 Brazil
- iii. A/AC.105/C.2/2019/CRP.8 Brazil, Czechia
- iv. A/AC.105/C.2/2019/CRP.15 Armenia, Indonesia
- v. A/AC.105/C.2/2021/CRP.6 Space Generation Advisory Council
- vi. A/AC.105/C.2/2021/CRP.24 Chile, Morocco, Nicaragua, the Philippines

6. Before considering the substance of those contributions by member States and observers of the Committee, it should be recalled that:

(a) The questionnaire addressed by the Chair to the Working Group does not affect in any way the mandate of the Working Group as defined by the Committee. Member States and observers may address any points or questions within the scope of that mandate, even though they are not related to this questionnaire;

(b) The synthesis to be provided by the Chair is not meant to be an abstract or a summary of the replies provided by the member States and observers. It is therefore advised to refer to the text of the written contributions or to the record of oral statements to get acquaintance with the views expressed by member States and observers;

(c) The exercise undertaken by the Working Group with this questionnaire is not meant to remain a theoretical review of space law issues. It aims at determining to which extent current issues with regard to space activities and international cooperation in outer space either may be tackled under the provisions of the existing treaties, or require further development of those provisions through appropriate complementary instruments or constructive interpretation, or even require further development in the existing corpus juris. This being said, it should be recalled that the Working Group has no mandate to propose any revision or authoritative interpretation of the existing United Nations treaties on outer space. It may only highlight possible shortcomings, uncertainties, ambiguities and draw attention from

the States parties thereon, and provide compilation of the issues raised by States participating in the questionnaire.

7. The present document is structured as follows:

I. Introduction;

II. Questionnaire on the application of international law to small-satellite activities provided by the Chair and contained in the Report of the Legal Subcommittee on its fifty-sixth session, document A/AC.105/1122 (Annex I, Appendix II), and the Report of the Legal Subcommittee on its sixtieth session, document A/AC.105/1243 (Annex I, Appendix II);

III. Synthesis of views presented on the questionnaire.

II. Questionnaire on the application of international law to small-satellite activities provided by the Chair and contained in the Report of the Legal Subcommittee on its fifty-sixth session, document A/AC.105/1122 (Annex I, Appendix II), and the Report of the Legal Subcommittee on its sixtieth session, document A/AC.105/1243 (Annex I, Appendix II)

1. Overview of small-satellite activities

1.1 Are small satellites serving the needs of your society? Has your country determined whether small satellites could serve an identified technological or development need?

1.2 Is your country involved in small-satellite activities such as designing, manufacturing, launching and operating? If so, please list projects, as appropriate. If not, are there future plans to do so?

1.3 Which kind of entity in your country is carrying out small-satellite activities?

1.4 Is there a focal point in your country responsible for coordinating small-satellite activities as part of your national space activities?

1.5 Are small-satellite activities carried out in the framework of international cooperation agreements? If so, what type of provisions specific to small-satellite activities are included in such cooperation agreements?

2. Licensing and authorization

2. Do you have a legal or regulatory framework to supervise any aspect of small-satellite activities in your country? If so, are they general acts or specific rules?

3. Responsibility and liability

3.1 Are there new challenges for responsibility and liability in view of small-satellite activities?

3.2 How are liability and insurance requirements enforced on an operator in your country, for a small satellite under your country's responsibility, in the event that "damage" occurs on the surface of Earth, to aircraft in flight or to another space object in orbit?

4. Launching State and liability

4.1 Since small satellites are not always deployed into orbit with dedicated rockets as in the case of larger satellites, there is a need for clarification in the understanding of the definition of "launch". When a launch of a small satellite requires two steps – first, launching from a site to an orbit and, second, deploying the small satellite to

another orbit – in your view, would the first step be regarded as the “launch” within the meaning of the United Nations treaties on outer space?

4.2 Do you think that the current international regulatory regime is sufficient to regulate operators of small satellites or that there should be a new or different international regulatory approach to address operations of small satellites?

5. Registration

5. Does your country have a practice of registering small satellites? If so, does your country have a practice of updating the status of small satellites? Is there any legislation or regulation in your country that requires non-governmental entities to submit to the Government information for the purpose of registration, including updating of the status of small satellites they operate?

6. Space debris mitigation in the context of small-satellite activities

6. How has your country incorporated specific requirements or guidelines into its national regulatory framework to take into account space debris mitigation?

III. Synthesis of views presented on the set of questions

On the overview of small-satellite activities

On the questions: 1.1 Are small satellites serving the needs of your society? Has your country determined whether small satellites could serve an identified technological or development need?

7. Several States expressed the view that small-satellite activities were of benefit for technological and scientific capacity-building and human resources and educational training in the countries, and therefore served the needs of societies.

8. Several States reported that projects involving the development and operation of small satellites were ongoing.

9. It was reported that there was no national policy or regulation which expressly determined that small satellites serve a specific technological or development need; however, they had been carried out for education, research and scientific purposes. The view was expressed that small satellite projects served the need for enhanced education in the space area, as particularly in the field of education and research, students of aerospace engineering, satellite communication and similar fields benefit from the possibility to gain hands-on experience and develop practical skills through participation in small satellite projects.

10. The view was expressed that small satellites could serve a variety of applications and that the first steps in developing a consistent small satellite environment had been undertaken. Their major benefit consisted in the low-cost opportunity of training human resources for the space programme.

11. The view was expressed that small satellites were serving the needs of society and offered opportunities across the whole structure of society – whether academic, industrial, or educational for peaceful purposes and for the benefit of humankind. It was emphasized that small-satellite activities could have a range of positive effects on a country’s development, including in the education and training of a skilled workforce, in providing opportunities for international space cooperation, in establishing small businesses, and in fostering peaceful relations among nations.

12. It was reported that all of the satellites launched at national level in the past five decades were under 100 kg in mass.

13. The view was expressed that small satellites were serving the societal needs for a space infrastructure, as they were more affordable and had a shorter developmental period. It was reported that they were used for Earth observation, maritime traffic

monitoring, emergency communication, Earth magnetic measurements, and connectivity and communication.

14. The view was expressed that national policy denoted small-satellite activities as beneficial for national development, of interest to the State, and beneficial to different areas of national activity, including strategic importance.

15. It was reported that there were at this stage no projects involving small satellites being implemented; however, if that would change in the future, the needs of society as a whole should be served.

16. The view was expressed that small satellites helped States to become emerging space nations through lowering the barriers to accessing the space environment, which was useful for conducting scientific exploration as well as for undertaking operational quality Earth observation and measurements for peaceful uses. Moreover, it was reported that the development and utilization of small satellites had opened and expanded opportunities for building upstream space capabilities and promoting downstream applications. The activities had supported the training of highly skilled personnel in facets of space mission planning, design, assembly, test and operation of satellites and the processing of imagery and other spaceborne data through “learning by doing”. Four experimental small satellites (Earth observation satellites used for remote sensing) were built. Data from these and other commercial small satellites was used to capture images in response to occurrences of typhoons and other natural disasters; for environmental and natural resource monitoring supporting applications in agriculture, air and water quality monitoring; and mapping geologic hazards such as volcanic activities, among others. In addition, amateur radio units onboard small satellites also supported communications useful especially in times of emergencies.

17. The view was expressed that in general, small satellites are beneficial for the technological and developmental needs of countries as they offer a cost-effective and innovative route for educational, scientific, commercial and technology demonstration purposes.

On the questions: 1.2 Is your country involved in small-satellite activities such as designing, manufacturing, launching and operating? If so, please list projects, as appropriate. If not, are there future plans to do so?

18. Several States reported that small satellites were the predominant satellite type launched at the national level. It was furthermore reported by several States that the academic sector played a predominant role in the development of technological capacity.

19. It was reported that all national satellites launched were nanosatellites. They were developed either by national institutions or by national institutions in collaboration with a foreign institution. For the launch of all described nanosatellites, a launch cooperation was initiated. Operation was at least in part carried out nationally.

20. It was reported that several CubeSat initiatives and at least one small satellite mission were supported at national level; some of which serve technology demonstration and Heliophysics research (South American Magnetic Anomaly and gravitational waves).

21. The view was expressed that small-satellite activities primarily served educational and technology demonstration purposes and concentrated at aerospace faculties of universities. There was also a dedicated small satellite programme supporting those university initiatives with financial means as well as administrative and legal advice.

22. It was reported that hands-on training programmes, technical competitions and conferences were offered and collaboration and cooperation facilitated.

23. It was reported that there were several small-satellite projects being carried out, carried out by the military and the academic sector.

24. It was reported that there were currently no small-satellite activities being carried out.

25. It was reported that the country was currently involved in small-satellite activities. There was a Government project on small-satellites which led to the launch and operation of three small satellites. The project was carried out in cooperation with the academic sector and contributed to building capabilities in small satellite upstream and downstream technologies.

On the question: 1.3 Which kind of entity in your country is carrying out small-satellite activities?

26. Several States reported that among the main actors at national level carrying out small-satellite activities were academic and research institutions. In some States, additionally, space agencies were participating in small-satellite activities.

27. It was reported that all small-satellite activities so far had been carried out by universities and research institutions at the national level. However, projects that were under development also involved industry.

28. It was reported that small-satellite activities were carried out mainly by universities, research institutions and the space industry.

29. It was reported that small-satellite activities had been developed by Government and academic institutions.

30. It was reported that the military and the academic sector were involved in the development of small-satellites.

31. It was reported that the national space agency, being a Government entity, carried out small-satellite activities. Furthermore, the Department of Science and Technology funded capacity building and research and development programmes on small satellites. In addition, academic institutions were involved in implementing programmes on small satellite technologies and downstream product development and it was expected that those would also engage local industry and private sector collaboration.

On the question: 1.4 Is there a focal point in your country responsible for coordinating small-satellite activities as part of your national space activities?

32. Several States reported that there was no dedicated focal point for small-satellite activities in the country.

33. Several States reported that the national focal point lay with the space agency or the Ministry of Transport, or that where there was no focal point for small-satellite activities, the space agency or Ministry of Transport could be contacted.

34. It was reported that through an international point of contact network throughout the world, universities were encouraged to contact their national authorities.

35. It was reported that the focal point for registration of space objects was the Ministry of Foreign Affairs. The promotion, dissemination and coordination of space activities was carried out by the Council of Ministers for Space Development, with assistance by the Ministry of Defence.

36. It was reported that there was a body responsible for coordinating, formulating and promoting national space activities, in accordance with the relevant international treaties to which the State was a State party.

On the questions: 1.5 Are small-satellite activities carried out in the framework of international cooperation agreements? If so, what type of provisions specific to small-satellite activities are included in such cooperation agreements?

37. Several States reported that international cooperation agreements were used in carrying out small-satellite activities.

38. It was reported that in some of the small satellite projects, international cooperation agreements were used, while in others, non-binding bylaws constituted the reference framework. It was emphasized that these binding and non-binding agreements were not necessarily specific to small-satellite activities and included issues that would also require agreement between scientists, institutions, and States if the projects involved larger satellites. However, international cooperation was particularly important for small and emerging space faring nations.

39. It was reported that no international cooperation agreements were currently employed.

40. It was reported that international cooperation and the use of small satellites in support of internationally agreed development goals, such as in the 2030 Agenda for Sustainable Agenda, were promoted. Furthermore, small-satellite activities in compliance with the existing voluntary debris frameworks, were promoted.

41. It was reported that international cooperation agreements were used for cooperation with several States, some in the form of standard non-commercial agreements between research institutions.

42. It was reported that despite the State not being a party to the five United Nations treaties on outer space, satellite activities were carried out in accordance with the norms of international law and the principle of international cooperation, including the corpus iuris spatialis.

43. It was reported that previous and ongoing small-satellite activities were carried out under a framework of international academic cooperation agreements between the Government and academic institutions (national and foreign). Moreover, there was an Asian Microsatellite Consortium established in November 2016, through which the small satellites developed through the cooperation were intended to be accessible to other member States.

44. The view was expressed that specific provisions of international cooperation agreements frequently implicated in small-satellite activities include authorization, supervision, liability, registration, space debris mitigation, radiofrequency allocation and applicable Radio Regulations from the International Telecommunication Union.

On licensing and authorization

On the questions: 2. Do you have a legal or regulatory framework to supervise any aspect of small-satellite activities in your country? If so, are they general acts or specific rules?

45. Several States expressed the view that the regulatory framework applicable to activities in outer space also applied to small-satellite activities.

46. The view was expressed that small-satellite activities fall under the legal framework generally applicable to space activities. It was emphasised that the size of the space object in this regard did not impact on the applicability of the legal framework, but rather the scope of application of the national legal framework of space activities in terms of jurisdiction or types of activity. The authorization and continuing supervision and control of national space activities by the Minister for Transport, Innovation and Technology was required.

47. The view was expressed that the only existing regulatory instance was the mandatory registration of space objects which was applicable to all national satellites.

48. The view was expressed that within the framework of the small satellite programme, there were several instruments, such as advice or funding requirements, to ensure compliance with the international obligations, including registration, frequency management and space debris mitigation.

49. The view was expressed that all space activities should adhere to the existing regulatory and legal framework.

50. It was reported that a legal or regulatory framework to supervise any aspect of small-satellite activities was currently being developed.

51. It was reported that national legislation on space activities was being drafted which would also cover activities of small satellites including registration. It was envisaged that the same regime applicable to space objects in general would apply to small-satellite activities.

52. It was reported that such framework for small-satellite activities did not exist at the national level.

53. It was reported that there was a legal framework regulating satellite communications services in general, including implementation of the relevant ITU Radiocommunication Sector Recommendations.

54. It was reported that there was a legal or regulatory framework to supervise any aspect of small-satellite activities present in the country. The national space agency was tasked with launching, tracking and operating the satellites on behalf of the Government; maintaining a national registry of space objects; and submitting the national registry information to the United Nation Office for Outer Space Affairs.

On responsibility and liability

On the question: 3.1 Are there new challenges for responsibility and liability in view of small-satellite activities?

55. Several States expressed the view that small-satellite activities could imply the responsibility and liability of a State, even if the State was not aware of such activities going on under its jurisdiction and regardless of the existence of a regulatory framework at the national level. Several States expressed the view that there were new challenges for responsibility and liability in view of small-satellite activities.

56. The view was expressed that an eminent challenge with small-satellite activities lied in the fact that they could be carried out by new actors in the space field, such as start-ups, universities or research institutions, who were possibly not be aware of the need of the State to stay informed about the space activities carried out under its jurisdiction. In case there was no national space legislation, there was no obligation for non-governmental entities to inform the State about planned or ongoing space activities; and even in case national space legislation did prescribe such obligation, non-governmental entities were possibly not be aware that their activity would fall under the national legislation and would require authorization by the competent authorities. In both cases, however, the State could be liable and responsible for the small-satellite activity. Yet, if the State had no knowledge of the small-satellite activity, it was not in the position to mitigate liability and responsibility as it had no possibility to authorize and supervise the activity or to establish requirements for insurance that could cover possible damage.

57. It was reported that the risk assessment of single small satellite missions was being evaluated by general criteria; however, continuous monitoring was required for the sum of all small-satellite activities. Support to small satellite missions was based on scientific-technical criteria.

58. The view was expressed that a national legal framework for space activities was important for the carrying out of space activities, especially with regard to activities carried out by non-governmental entities.

59. The view was expressed that space debris and other satellites operations as well as interference constituted new challenges regarding small-satellite activities.

60. The view was expressed that concerns might arise regarding a State's responsibility and liability if it was not aware that small-satellite activities were carried out. However, even without knowledge that such activities were carried out, the State could be liable internationally for damage caused by them.

61. The view was expressed that new challenges for space activities stemming from the operation of small-satellites was the increase of unregistered small-satellites, which after their end of life could transform into space debris and could create threats to the interests of third States active in outer space.

62. The view was expressed that there were new challenges for responsibility and liability in view of small-satellite activities present. The proliferation of small-satellite activities was seen as increasing the magnitude of responsibilities and liabilities of a State Party taking into account the provisions of the Outer Space Treaty, Registration Convention and Liability Convention. Moreover, the international liability underscored the need for national legislation to ensure that States could effectively regulate and monitor small-satellite activities within their countries, whether or not such small-satellite activities were carried out by governmental or non-governmental entities.

63. The view was expressed that there were new challenges for responsibility and liability in view of small-satellite activities, particularly with respect to jurisdiction in international projects. It was noted that when space activities were undertaken by a number of entities, particularly in commercial projects with unevenly spread contributions to a project, the notion of the launching State could face challenges. Furthermore, the potentially large burden borne by a launching State could hamper international cooperation.

On the question: 3.2 How are liability and insurance requirements enforced on an operator in your country, for a small satellite under your country's responsibility, in the event that "damage" occurs on the surface of Earth, to aircraft in flight or to another space object in orbit?

64. Several States reported that liability and insurance requirements were not currently enforced on an operator.

65. It was reported that insurance was one of the requirements for authorization under the national legal framework with a minimum of € 60 000 000 per insurance claim. However, for space activities carried out in the public interest, i.e. science, research or education, the requirement could be mitigated or waived. In case of damage compensation, there was a right of recourse by the government against the operator. If the damage was caused on the surface of the Earth or to aircraft in flight, the right of recourse comprised an amount up to the sum of the insured risk, but no less than the minimum amount of insurance set out by law; however, this limitation did not apply if the damage was due to fault by the operator or his agents or if the operator did infringe the legal regulation regarding the authorization of the space activity – the latter could be fined as an administrative offence unless the action represents a criminal offence falling within the competence of the courts. There was also a fine imposed for carrying out a space activity without the necessary authorization.

66. It was reported that federally funded university projects were based on the self-insurance principle of the public sector.

67. The view was expressed that all space activities should adhere to the existing regulatory and legal framework, according to which the responsibility lies with the launching State.

68. It was reported that currently, all space activities in the State were governmental. However, legislation for non-governmental entities was under development.

69. It was reported that national legislation on space activities was currently being drafted and it was envisaged that the same regime applicable to space objects in general would apply to small-satellite activities.

70. The view was expressed that should any event occur concerning the abovementioned incidents, measures will be taken in accordance to the Liability Convention.

71. It was reported that no information was being recorded.
72. It was reported that the State did not have any small-satellite operators.
73. It was reported that the matter was currently not legally regulated and that therefore general tort law and insurance law was applicable to damages caused by small satellites on the surface of the Earth, to aircraft in flight, or to another space object in orbit.

On Launching State and liability

On the question: 4.1 Since small satellites are not always deployed into orbit with dedicated rockets as in the case of larger satellites, there is a need for clarification in the understanding of the definition of “launch”. When a launch of a small satellite requires two steps —first, launching from a site to an orbit and, second, deploying the small satellite to another orbit—in your view, would the first step be regarded as the “launch” within the meaning of the United Nations treaties on outer space?

74. Several States expressed the view that within the meaning of the United Nations treaties on outer space, the first step involving the launch from Earth to outer space would constitute the launch of the small satellite.
75. The view was expressed that the transport from a site to an orbit constituted the launch within the meaning of the United Nations treaties on outer space, since it transported the space object from Earth into outer space. The consecutive deployment into the planned orbit could be classified as change of orbits. Agreements between the launching States regarding questions of registration, responsibility and liability should be arranged.
76. The view was expressed that the launch phase could be seen as ending at the point in which the satellite was independently operated, for example when separated from the launch vehicle or, in the case of cubesats, 30 minutes after deployment.
77. The view was expressed that in case of a two-step deployment of a space object, the first step from Earth to outer space constituted the relevant connecting point for the definition of launch with regard to the launching State qualification. States that were only involved in the secondary deployment would not qualify as launching States under the international treaties on outer space. The view was reasoned by the risks of launching a space object from Earth to outer space, which served as the basis for the launching State regulation.
78. The view was expressed that since attempt of launch was considered a launch under the international regulatory framework, a small satellite would be a payload as any other in the fairing of the launch vehicle.
79. The view was expressed that it was necessary to include the final destination of the small-satellite into the legal concept of launching space objects.
80. It was reported that this matter was still being studied.

On the question: 4.2 Do you think that the current international regulatory regime is sufficient to regulate operators of small satellites or that there should be a new or different international regulatory approach to address operations of small satellites?

81. Several States expressed the view that the existing regime was sufficient to address small satellite operations.
82. The view was expressed that the existing international legal framework is sufficient to regulate the operation of small-satellite activities, if implemented efficiently at the national level.
83. The view was expressed that the regulatory regime for individual small satellite missions followed in principle the same challenges as other satellites. It was noted that given the relation between the functional and non-functional amounts of time spent in orbit by small satellites, the 25-year rule was possibly not adequate. In

addition, megaconstellations posed new challenges due to the amount of satellites introduced into the space environment.

84. The view was expressed that according to international law, there was no distinction between small and other satellites; however, States were at liberty to design a national framework that e.g. promoted space activities, including small-satellite activities.

85. The view was expressed that it was sufficient but could be optimized for small satellites.

86. The view was expressed that the existing international legal regime addressed also activities of small satellites and therefore establishing new regulatory framework was not necessary. However, it could be useful in order to deal with emerging technological challenges, in particular with regards to large constellations, to develop international guidelines and standards specific to small satellites.

87. The view was expressed that the current approach to small-satellite activities was adequate; however, international space law should be continuously developed and codified further.

88. The view was expressed that small satellites represented a technological development offering many advantages with respect to the use and exploitation of outer space, especially for developing countries. However, the development of small satellites presented significant issues and challenges in terms of the regulatory aspects of space activities and was worth including on the COPUOS agenda for further consideration.

89. The view was expressed that there should be a new international regulatory approach to address the operations of small satellites.

On registration

On the questions: 5. Does your country have a practice of registering small satellites? If so, does your country have a practice of updating the status of small satellites? Is there any legislation or regulation in your country that requires non-governmental entities to submit to the Government information for the purpose of registration, including updating of the status of small satellites they operate?

90. Several States expressed the view that small satellites had to be registered under the registration regime applicable to all space objects.

91. Several States reported that national legislation on space activities, applicable also to small-satellite activities, was currently under development.

92. It was reported that all space objects, irrespective of their size, which the State classified as a launching State for, had to be registered nationally as well as in the United Nations register by the Minister for Transport, Innovation and Technology. The operator also was under the obligation to submit all modifications relevant to the registration information without delay and to notify immediately all incidents which delayed or rendered impossible the carrying out of the space activity.

93. It was reported that there was no practice in registering small satellites.

94. It was reported that the State was a signatory to the five United Nations treaties on outer space and complied with registration regulations through the Ministry of Foreign Affairs.

95. It was reported that no small satellites had been registered as the State did not carry out such activities. However, the procedures established for orbiting satellite networks and public and private Earth stations were followed and the related regulatory responsibilities, in compliance with the Radio Regulations of ITU, were assumed.

96. It was reported that the registration of small satellites with the Office for Outer Space Affairs under General Assembly Resolution 62/101 was practiced. National

legislation required the national space agency to monitor the launching, tracking and operating the satellites on behalf of the Government as well as maintaining a national registry.

On space debris mitigation in the context of small-satellite activities

On the question: 6. How has your country incorporated specific requirements or guidelines into its national regulatory framework to take into account space debris mitigation?

97. Several States reported that space debris mitigation requirements or guidelines were not yet incorporated into the national legislation, but in some cases, were currently under development.

98. It was reported that space debris mitigation constituted one of the conditions for the authorization of national space activities, including small-satellite activities under the national legal framework for space activities. This provision had to be made in accordance with the state of the art and in due consideration of the internationally recognized guidelines for the mitigation of space debris, such as the IADC Space Debris Mitigation Guidelines, the ESA Requirements on Space Debris Mitigation and the Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space. As evidence of appropriate provisions for the mitigation of space debris, the operator was required to submit a demonstration of measures adopted for the avoidance of space debris and mission residue released during normal operations, for the prevention of on-orbit collisions with other space objects, for the avoidance of on-orbit break-ups of the space object as well as for the removal of the space object from orbit at the end of mission, either by controlled re-entry or by moving the space object to a sufficiently high orbit. For non-maneuvrable space objects an orbit had to be chosen where post-mission lifetime did not exceed 25 years.

99. It was reported that a debris mitigation study competition was conducted as well as participation in an international study group took place. It was encouraged that all space activities should adhere to the relevant international and national recognized standards, guidelines or regulatory frameworks.

100. It was reported that ISO Standards were followed and a national regulatory framework addressing space debris mitigation was under development.

101. It was reported that a protocol for deorbiting and controlling the re-entry of the small-satellite had been developed.
