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Study Series

Transparency and Confidence-
Building Measures in Outer-
Space Activities

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Transparency and Confidence-Building Measures in Outer Space Activities

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GUIDE TO THE USER

This print publication has been issued in implementation of the United Nations Disarmament Information Programme as a reference tool containing the report of the Secretary-General on transparency and confidence-building measures in outer space activities.

This publication contains the report of the Secretary-General and additional material related to the publication of the report. The views expressed in the experts' papers, published in unedited form, are those of the authors and do not necessarily reflect those of the United Nations.

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Part 1

A/68/189

Report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities

Summary

The present report contains the study on outer space transparency and confidence-building measures conducted by the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, which was established by the Secretary-General of the United Nations. The study was adopted by consensus. The Group concluded that the world's growing dependence on space-based systems and technologies and the information they provide requires collaborative efforts to address threats to the sustainability and security of outer space activities. Transparency and confidence-building measures can reduce, or even eliminate, misunderstandings, mistrust and miscalculations with regard to the activities and intentions of States in outer space.

The Group acknowledged that the existing treaties on outer space contain several transparency and confidence-building measures of a mandatory nature. Non-legally binding measures for outer space activities should complement the existing international legal framework pertaining to space activities and should not undermine existing legal obligations or hamper the lawful use of outer space, particularly by emerging space actors. The Group further agreed that such measures for outer space activities could contribute to, but not act as a substitute for, measures to monitor the implementation of arms limitation and disarmament agreements.

After extensive and in-depth discussions, the Group drafted a series of measures for outer space activities, including exchange of information relating to national space policy such as major military expenditure on outer space, notifications on outer space activities aimed at risk reduction, and visits to space launch sites and facilities. The Group discussed criteria for developing transparency and confidence-building measures in outer space activities and for testing their implementation and validation. In addition, the Group encouraged further development of international cooperation between spacefaring and non-spacefaring nations in the peaceful uses of outer space for the benefit of all States.

The proposed measures drafted by the Group also include coordination and consultative mechanisms aimed at improving interaction between participants in outer space activities and clarifying information and ambiguous situations. In order to promote effective implementation of the transparency and confidence-building measures, the Group recommended that coordination be established between the Office for Disarmament Affairs, the Office for Outer Space Affairs and other appropriate United Nations entities.

The Group recommended that States and international organizations consider and implement the transparency and confidence-building measures contained in the present report on a voluntary basis and without prejudice to the implementation of obligations deriving from existing legal commitments.

The Group further recommended that the General Assembly decide how to best advance transparency and confidence-building measures and facilitate their universal consideration and support, including by the relevant offices of the Secretariat and the United Nations entities whose work relates to disarmament. The Group also requested the Secretary-General to circulate its report to all relevant entities of the United Nations system.

Foreword by the Secretary-General

The societies of our globalized world are increasingly dependent on the more than 1,000 operational satellites that orbit Earth. Space-based platforms can collect and almost instantly broadcast large amounts of information worldwide. The benefits derived from outer space resources are now fundamental components of our daily lives. From agriculture and weather forecasting to mapping and communications, space plays an ever-growing role in human activities and development.

However, outer space is a fragile environment where the steps taken by one actor may have an impact on others, including users of space services on Earth. The broader application of space operations and the increased strategic value of space have resulted in a growing focus on safety in outer space activities. Satellites provide strategic advantages but they are also vulnerable. Protecting space assets has thus become a serious international security concern.

The applicability of transparency and confidence-building measures for outer space activities was explored for the first time at the global level in 1993, when few countries were able to operate satellites and spacecraft. Today, more than 60 States, government consortiums and other entities own or operate space assets, and the number of spacefaring nations continues to grow. This fundamental change in the political climate surrounding outer space led me to establish, in 2012, the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities.

The present report contains the Group's conclusions and recommendations. It builds on the recommendations of a previous group of experts and on proposals for outer space transparency and confidence-building measures submitted to the United Nations by Member States.

The study reaffirms that international cooperation in the peaceful uses of outer space can help States to develop and strengthen their capacities to benefit from space activities. The Group agreed on a number of substantive transparency and confidence-building measures, which I commend to the General Assembly for consideration. I also support the Group's recommendation to establish coordination between various entities of the United Nations Secretariat and other institutions involved in outer space activities. This would facilitate the implementation of the transparency and confidence-building measures and promote their further development. Outer space is an inherently multilateral domain. If we are to continue to take advantage of the invaluable resources that outer space provides, it is critically important for all nations to work collectively to keep it free from destabilizing conflict and to make it safe, secure and sustainable in the long term for the benefit of all humankind.

Letter of transmittal

19 July 2013

I have the honour to submit herewith the report of the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, established pursuant to General Assembly resolution 65/68. The members of the Group are as follows:

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The report was prepared between July 2012 and July 2013, during which period the Group of Governmental Experts held three sessions: the first and third sessions were held in New York, from 23 to 27 July 2012 and from 8 to 12 July 2013 respectively, and the second session was held in Geneva, from 1 to 5 April 2013.

In carrying out its work, the Group took into account the report of the Secretary-General entitled “Study on the application of confidence-building measures in outer space” (A/48/305 and Corr.1). It also considered a number of proposals from experts and from States that were not represented by experts in the Group.

With the purpose of preparing a comprehensive study, the Group authorized the Chair to conduct consultations during the intersessional periods with intergovernmental organizations involved in the peaceful exploration and use of outer space. The Chair briefed the Conference on Disarmament and the Committee on the Peaceful Uses of Outer Space about discussions within the Group. In addition, he conducted consultations with the International Telecommunication Union and the World Meteorological Organization.

Following extensive and in-depth discussions, the experts agreed upon a set of transparency and confidence-building measures for outer space activities and recommended that States consider and implement them on a voluntary basis. The measures include the exchange of different types of information relating to space policy and activities, risk reduction notifications and expert visits to national space facilities.

The Group recommended that the General Assembly decide how to further advance transparency and confidence-building measures and provide for their universal consideration and support. In addition, it requested the Secretary-General to circulate the present report to the Committee on the Peaceful Uses of Outer Space and other relevant entities of the United Nations system. Efforts should also be made to reach universal participation in, implementation of and full adherence to the existing legal agreements relating to outer space activities. The

Group stressed that the implementation of those international agreements in combination with the transparency and confidence-building measures recommended in the report would constitute an essential element for building a climate of trust and confidence among States.

The members of the Group wish to express their appreciation for the assistance they received from members of the United Nations Secretariat, in particular those who served as Secretaries of the Group. The Group also wishes to express its appreciation for the contribution of the United Nations Institute for Disarmament Research, which served as consultant to the Group.

I have been requested by the Group of Governmental Experts, as its Chair, to submit to you, on its behalf, the present report, which was approved by consensus.

(Signed) Victor L. **Vasiliev**

Chair

Group of Governmental Experts on Transparency and
Confidence-Building Measures in Outer Space Activities

I. Introduction

1. Pursuant to General Assembly resolution 65/68, the Secretary-General established the Group of Governmental Experts on Transparency and Confidence-Building Measures in Outer Space Activities, on the basis of equitable geographical representation, with the purpose of conducting a study on outer space transparency and confidence-building measures, making use of the relevant reports of the Secretary-General. The General Assembly has noted the need to conduct the study, without prejudice to the substantive discussions on the prevention of an arms race in outer space within the framework of the Conference on Disarmament.

2. The present report reflects the recommendations of the Group of Governmental Experts on possible transparency and confidence-building measures in outer space activities that could be adopted voluntarily by States on a unilateral, bilateral, regional or multilateral basis. Section II provides a background overview. In section III, the general characteristics and basic principles of outer space transparency and confidence-building measures are discussed. Sections IV-VIII reflect the specific measures recommended by the Group on transparency and confidence-building measures in outer space activities. Finally, section IX provides general conclusions and recommendations for the implementation of the measures presented in sections IV-VIII.

3. For the preparation of the report, the Group carried out a wide range of consultations and received input from Member States, international organizations and civil society.

II. Background overview

4. The outer space environment, and the immense resources it provides, is a critical component of human endeavour in the twenty-first century. From communications to financial operations, farming to weather forecasting and environmental monitoring to navigation, surveillance and treaty monitoring, outer space resources play a key role in the activities of all nations. Outer space activities play a significant role in social, economic, scientific and technological development, as well as in the field of international peace and security.

5. Today, there are more than 1,000 operational satellites in orbit around the Earth. More than 60 States, government consortiums and other entities own or operate those space assets and more and more States are becoming spacefaring nations and/or increasing their space-based capabilities and resources.

6. The result of the increase in space actors and space users is that the space environment, especially key Earth orbits, has become increasingly utilized over the past few decades. As a consequence, the outer space environment is becoming increasingly congested, contested and competitive. In the context of international peace and security, there is growing concern that threats to vital space capabilities may increase during the next decade as a result of both natural and man-made hazards and the possible development of disruptive and destructive counterspace capabilities.

7. In addition to the growth of space actors and space resource users, since the last study by governmental experts on the application of confidence-building measures in outer space (A/48/305 and Corr.1), the political climate regarding outer space sustainability and security has fundamentally changed, as reflected in, inter alia, the resolutions adopted by the General Assembly on transparency and confidence-building measures in outer space activities,

and the substantive discussions of the Conference on Disarmament on the prevention of an arms race in outer space and of the Working Group on the Long-Term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space, as well as the activities of the International Telecommunication Union (ITU) and the World Meteorological Organization (WMO). Various proposals have also been put forward, including a draft treaty introduced at the Conference on Disarmament on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects (see CD/1839) and the proposal for an international code of conduct for outer space activities.¹

8. The Group recognized the invaluable role played by the existing international treaties on outer space, adopted by the General Assembly, especially the 1967 Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, in consolidating a legal regime aimed at fostering use of outer space and strengthening international cooperation in outer space activities. In that context, the Group recognized that States are ultimately responsible for the authorization and continuing supervision of all space activities under their jurisdiction. Under the legal framework of those treaties and of other instruments that may also be relevant and applicable to the space environment in that context, use of outer space by States, international organizations and private entities has flourished.² As a result, space technology and services contribute immeasurably to economic growth and improvements in the quality of life around the world.

9. With regard to maintaining international peace and security, it is clear that it is in the shared interest of all nations to act responsibly and in accordance with international law when carrying out outer space activities, in order to help to prevent mishaps, misperceptions and miscalculations. As more governmental and non-governmental entities become involved in outer space activities, greater international cooperation is needed to uphold the long-standing principle that the exploration and use of outer space should be carried out for the benefit and in the interests of all countries. Such cooperation is essential if the international community is to succeed in safeguarding the use of outer space for peaceful purposes and for future generations.

10. The Group noted that efforts by States, and the international community as a whole, are being undertaken to advance concerted, well-thought out, effective and timely bilateral, regional and multilateral initiatives to strengthen stability and security in outer space in a constructive manner.

11. The work that takes place within the Committee on the Peaceful Uses of Outer Space, its Scientific and Technical Subcommittee and its Legal Subcommittee, makes a significant contribution to the promotion of the long-term sustainability of outer space activities. The Committee and its Subcommittees play a central role in the development of treaties, principles and guidelines related to outer space activities.

12. In 2010, the Scientific and Technical Subcommittee established the Working Group on the Long-Term Sustainability of Outer Space Activities. The Working Group is mandated

¹ http://eeas.europa.eu/non-proliferation-and-disarmament/outer-space-activities/index_en.htm.

² Reference is made mainly to the mentioned 1967 Outer Space Treaty, the 1968 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the 1972 Convention on International Liability for Damage Caused by Space Objects and the 1975 Convention on the Registration of Objects Launched into Outer Space, and the ITU Constitution and Convention and its Radio Regulations, as amended.

to prepare a report on the long-term sustainability of outer space activities and to recommend a set of guidelines focused on practical and prudent measures that could be implemented in a timely manner to enhance the safety and long-term sustainability of outer space activities.

13. The Group of Governmental Experts recognized the active participation of member States of the Committee on the Peaceful Uses of Outer Space in the development of those guidelines and noted the importance of their subsequent implementation by all States and intergovernmental organizations. These guidelines will have characteristics similar to those of transparency and confidence-building measures; some of them could be considered as potential transparency and confidence-building measures, while others could provide the technical basis for the implementation of certain transparency and confidence-building measures proposed by this Group of Governmental Experts. The report of the Working Group on the Long-Term Sustainability of Outer Space Activities will be presented to the Committee on the Peaceful Uses of Outer Space. Once the finalized guidelines are approved, they will be presented to the Fourth Committee of the General Assembly, and then to the General Assembly itself for endorsement and adoption.

14. The Group noted the extensive work of the First Committee of the General Assembly on confidence-building measures in various sectors. Specifically, the Group noted that the First Committee recommends for adoption by the Assembly a draft resolution on transparency and confidence-building measures in outer space activities on an annual basis. Additionally, the Group noted the concrete proposals from Member States on outer space transparency and confidence-building measures, as contained in the report of the Secretary-General entitled “Transparency and confidence-building measures in outer space activities” (A/65/123 and Add.1).

15. The Group noted that the agenda of the Conference on Disarmament includes the item “Prevention of an arms race in outer space”. In that context, several initiatives related to transparency and confidence-building measures have been proposed. They include, for example, working papers on transparency and confidence-building measures in outer space (CD/1815) and on the merits of certain draft transparency and confidence-building measures and treaty proposals for space security (CD/1865). Also of note is the draft treaty on prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects (see CD/1839).

16. Following General Assembly resolutions on transparency and confidence-building measures in outer space, the European Union presented a draft of a non-legally binding international code of conduct for outer space activities to the international community in Vienna on 5 June 2012. The Group noted the open-ended consultations on the proposal that were held in Kyiv on 16 and 17 May 2013.

17. The Group noted the role of ITU in the management of the radio frequency spectrum and geostationary orbital slots. In the context of transparency and confidence-building measures, the ITU Radiocommunication Bureau plays a key role in addressing harmful radio-frequency interference, as provided for in article 45 of the ITU Constitution and article 15 of the ITU Radio Regulations. The Group also noted the importance of commitments to establish and implement policies and procedures to minimize any form of harmful radio-frequency interference.

18. The Group noted that regional intergovernmental organizations provide useful platforms for the development and implementation of transparency and confidence-building measures related to coordination and international cooperation.

19. The Group noted that, since 2004, several States have introduced a policy of not being the first State to place weapons in outer space.

III. General characteristics and basic principles of outer space transparency and confidence-building measures

A. Nature and purpose of outer space transparency and confidence-building measures

20. In general terms, transparency and confidence-building measures are a means by which Governments can share information with the aim of creating mutual understanding and trust, reducing misperceptions and miscalculations and thereby helping both to prevent military confrontation and to foster regional and global stability. They also assist in building confidence as to the peaceful intentions of States and can help States to increase understanding, enhance clarity of intentions and create conditions for establishing a predictable strategic situation in both the economic and security arenas.

21. Although there is no universal or comprehensive prescription for identifying transparency and confidence-building measures, there are certain characteristics that may be used to determine their effectiveness. In general, there are two types of transparency and confidence-building measures: those dealing with capabilities and those dealing with behaviours. The Group took note of the “Guidelines for appropriate types of confidence-building measures and for the implementation of such measures on a global or regional level”, as contained in the “Study on the application of confidence-building measures in outer space” (A/48/305 and Corr.1, annex, appendix II).

22. Transparency and confidence-building measures have been employed in a number of terrestrial contexts for decades. They had an especially important role during the cold war, where they were intended to contribute to reducing the risk of armed conflict through mitigating misunderstandings related to military activities, particularly in situations where States lacked clear and timely information.

23. The Group was of the view that transparency and confidence-building measures developed in a multilateral framework are more likely to be adopted by the wider international community.

B. Transparency and confidence-building measures in outer space activities

24. The Group recognized that transparency and confidence-building measures, for the purpose of its study, were to be considered as non-legally binding voluntary measures. At the same time, it noted that elements of transparency and confidence-building measures may be found in existing international agreements. The Group also discussed other measures, including those of a legally binding nature.

25. The Group recognized that the need for transparency and confidence-building measures in outer space activities has increased significantly over the past two decades. It is generally acknowledged that such measures can augment the safety, sustainability and security of day-to-day space operations and can contribute both to the development of mutual understanding and to the strengthening of friendly relations between States and peoples. That recognition has been reflected in numerous resolutions of the General Assembly.

26. Transparency and confidence-building measures for outer space activities are part of a broader context of such measures. The General Assembly endorsed, in its resolution 43/78 H, the guidelines for appropriate types of confidence-building measures, as adopted by the Disarmament Commission at its 1988 substantive session. In that resolution, the Assembly noted that “confidence-building measures, while neither a substitute nor a precondition for arms limitation and disarmament measures, can be conducive to achieving progress in disarmament”.

27. The Group identified the following categories of transparency and confidence-building measures for outer space activities as being of relevance:

(a) General transparency and confidence-building measures aimed at enhancing the availability of information on the space policy of States involved in outer space activities;

(b) Information exchange about development programmes for new space systems, as well as information about operational space-based systems providing widely used services such as meteorological observations or global positioning, navigation and timing;

(c) The articulation of a State’s principles and goals relating to their exploration and use of outer space for peaceful purposes;

(d) Specific information-exchange measures aimed at expanding the availability of information on objects in outer space and their general function, particularly those objects in Earth orbits;

(e) Measures related to establishing norms of behaviour for promoting spaceflight safety such as launch notifications and consultations that aim at avoiding potentially harmful interference, limiting orbital debris and minimizing the risk of collisions with other space objects;

(f) International cooperation measures in outer space activities, including measures aimed at promoting capacity-building and disseminating data for sustainable economic and social development, that are consistent with existing international commitments and obligations.

28. The Group agreed that transparency and confidence-building measures for outer space activities can also contribute to, but not substitute for, measures to verify arms limitation and disarmament agreements.

29. The Group noted that some transparency and confidence-building measures for outer space activities have already been enacted at the multilateral and/or the national level. Such measures include pre-launch notifications, space situational awareness data-sharing, notifications of hazards to spaceflight safety and other significant events, and the publication of national space policies. Several countries have also proposed new voluntary unilateral or collective transparency and confidence-building measures in space.

C. Criteria for transparency and confidence-building measures in outer space

30. Transparency and confidence-building measures can be developed and implemented by States and intergovernmental organizations unilaterally, bilaterally, regionally and multilaterally. States should implement such measures to the greatest extent practicable, consistent with their national interests and obligations. Transparency and confidence-building

measures promote mutual confidence among States through constructive dialogue and increased awareness and insight.

31. In general terms, transparency and confidence-building measures for outer space activities should be aimed at increasing the security, safety and sustainability of outer space. Particular attention should be given to the development and implementation of voluntary and pragmatic measures to ensure the security and stability of all aspects of outer space activities. In developing transparency and confidence-building measures for outer space activities, it is particularly important to be able to demonstrate the practicability of a particular measure or set of actions to the various actors involved, within the scope of that proposed measure or set of actions.

32. The Group observed that the existing treaties on outer space contain several transparency and confidence-building measures of a mandatory nature. Non-legally binding transparency and confidence-building measures for outer space activities should complement the existing international legal framework pertaining to outer space activities, and not undermine existing legal obligations or hamper the legal use of outer space, particularly by emerging space actors. Once adopted, certain transparency and confidence-building measures might have specific effects in a domestic context, especially with regard to their implementation through relevant national mechanisms.

33. Transparency and confidence-building measures for outer space activities should complement, but not substitute for, the verification measures in arms control agreements and regimes. Voluntary transparency and confidence-building measures could contribute to the consideration of concepts and proposals for legally binding arms control measures as well as verification protocols included in legally binding international instruments.

34. A proposed transparency and confidence-building measure should:

(a) Be clear, practical and proven, meaning that both the application and the efficacy of the proposed measure have been demonstrated by one or more actors;

(b) Be able to be effectively confirmed by other parties in its application, either independently or collectively;

(c) Reduce or even eliminate the causes of mistrust, misunderstanding and miscalculation with regard to the activities and intentions of States.

35. The following table attempts to capture the essence of testing a transparency and confidence-building measure for its implementation and validation/demonstration.

Testing a transparency and confidence-building measure

	<i>Implementation</i>	<i>Demonstration</i>
Who	Who should implement the measure?	Who will be able to confirm that the measure has been implemented?
What	What is the measure that should be implemented? Is it clearly identified and understood?	What should be demonstrated to confirm implementation?

	<i>Implementation</i>	<i>Demonstration</i>
Why	What is the value or benefit of performing the measure?	Does a clear understanding of why it is important to be able to confirm or demonstrate implementation exist?
When	When should the measure be implemented?	At what point is demonstration or confirmation performed?
How	How should the measure be implemented?	How is implementation of the measure validated, demonstrated or confirmed?

IV. Enhancing the transparency of outer space activities

36. Exchanges of information through bilateral, regional and multilateral mechanisms are intended to serve as regular and routine opportunities for States to describe their current and planned space activities. States may exchange general information on their outer space policies and space activities and provide risk reduction notifications for foreseeable hazardous situations. Risks may include dangers to the lives or health of astronauts or to human spaceflight activity, as well as natural phenomena that may cause harmful interference to spacecraft. States should be encouraged to share information with other governmental and non-governmental spacecraft operators and relevant international organizations in a timely manner. States may consider on a voluntary basis familiarization visits to space-related facilities.

A. Information exchange on space policies

Exchanges of information on the principles and goals of a State's outer space policy

37. States should publish information on their national space policies and strategies, including those relating to security. States should also publish information on their major outer space research and space applications programmes in order to build a climate of trust and confidence between States worldwide on military and non-military matters. This should be carried out in line with existing multilateral commitments. States may provide any additional information reflecting their relevant defence policy, military strategies and doctrines.

Exchanges of information on major military outer space expenditure and other national security space activities

38. Consistent with existing political commitments for national reporting on major military expenditure and guidelines and recommendations for objective information on military matters to all Member States, Governments should use existing mechanisms to report on their military space expenditure as well as other national security space activities (General Assembly resolution 66/20, para. 1, and A/66/89 and Corr.1-3, annex II). They may supplement such reports with explanatory remarks regarding submitted data to explain or clarify the figures provided in the reports, such as total national security space expenditure as a share of gross domestic product and major changes from previous reports.

B. Information exchange and notifications related to outer space activities

Exchanges of information on orbital parameters of outer space objects and potential orbital conjunctions

39. Exchanges of information on the basic orbital parameters of outer space objects may assist in increasing the accuracy of the tracking of space objects. Specific measures could include:

(a) Exchange of information on the orbital elements of space objects and the provision, to the extent practicable, of notifications of potential orbital conjunctions involving spacecraft to affected government and private sector spacecraft operators;

(b) Provision of registration information to the United Nations as soon as practicable, in accordance with the Convention on Registration of Objects Launched into Outer Space (1975) and General Assembly resolution 62/101, entitled “Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects”;

(c) Provision of public access to national registries of space objects.

Such notifications, through bilateral, regional and multilateral mechanisms, can provide transparency regarding specific space activities. Shared awareness of spaceflight activity may foster global spaceflight safety and contribute to avoidance of mishaps, misperceptions and mistrust.

Exchanges of information on forecast natural hazards in outer space

40. In accordance with the Outer Space Treaty, States should immediately inform other States or the Secretary-General of the United Nations of any phenomena they discover in outer space, including on the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts or to human spaceflight activity. States should also consider providing, on a voluntary basis, timely information to other governmental and non-governmental spacecraft operators of natural phenomena that may cause potentially harmful interference to spacecraft engaged in the peaceful exploration and use of outer space.

Notification of planned spacecraft launches

41. States should provide pre-launch notifications of space vehicle launches and the mission of launch vehicles. The Group noted that the Hague Code of Conduct against Ballistic Missile Proliferation provides an example of such a notification.

C. Risk reduction notifications

Notifications on scheduled manoeuvres that may result in risk to the flight safety of other space objects

42. States should notify, in a timely manner and to the greatest extent practicable, potentially affected States of scheduled manoeuvres that may result in risk to the flight safety of the space objects of other States.

Notifications and monitoring of uncontrolled high-risk re-entry events

43. States should support the development and implementation of measures to exchange information with and notify, in a timely manner and to the greatest extent practicable, all States that may be affected, the Secretary-General of the United Nations and relevant international organizations of predicted high-risk re-entry events in which the re-entering space object or residual material from the re-entering space object potentially could cause significant damage or radioactive contamination.

Notifications in the case of emergency situations

44. States should, in a timely manner and to the greatest extent practicable, notify all other potentially affected States of events linked to natural and man-made threats to the flight safety of space objects. These may include risks caused by the malfunctioning of space objects or loss of control that could result in a significantly increased probability of a high-risk re-entry event or a collision between space objects.

Notification of intentional orbital break-ups

45. Intentional destruction of any on-orbit spacecraft and launch vehicle orbital stages or other harmful activities that generate long-lived debris should be avoided. When intentional break-ups are determined to be necessary, States should inform other potentially affected States of their plans, including measures that will be taken to ensure that intentional destruction is conducted at sufficiently low altitudes to limit the orbital lifetime of resulting fragments. All actions should be carried out in conformity with the Space Debris Mitigation Guidelines of the United Nations as endorsed by the General Assembly in its resolution 62/217, entitled “International cooperation in the peaceful uses of outer space”.

D. Contact and visits to space launch sites and facilities

Voluntary familiarization visits

46. Voluntary familiarization visits can provide opportunities to improve international understanding of a State’s processes and procedures for space activities, including dual-use and military activities, and can provide context for the development and implementation of notifications and consultations.

Expert visits, including visits to space launch sites, invitation of international observers to launch sites, flight command and control centres and other operations facilities of outer space infrastructure

47. Taking note of article X of the Outer Space Treaty, as well as other multilateral commitments, States are encouraged to consider, on a voluntary basis, expert visits to space facilities. Such visits could include space situational awareness centres.

Demonstrations of rocket and space technologies

48. Demonstrations of rockets and other space-related technologies could be carried out on a voluntary basis and in line with existing multilateral commitments and national export control regulations.

V. International cooperation

49. International cooperation in the peaceful uses of outer space provides a basis for all States to develop and strengthen their capacity to undertake and/or derive benefits from space activities. International cooperation on scientific and technical projects between both spacefaring and non-spacefaring nations can contribute to confidence-building.

50. While there are a number of States that have acquired significant space-related capabilities, many non-spacefaring States have a strong desire to participate directly in outer space activities and to share in space technology.

51. As noted in the study on the application of confidence-building measures in outer space (A/48/305 and Corr.1), the disparity in the space capabilities of States, the inability of most States to participate in space activities without the assistance of others, uncertainty concerning sufficient transfer of space technologies between States and the inability of many States to acquire significant space-based information are factors contributing to a lack of confidence among States. International cooperation is an important vehicle for promoting the right of each nation to achieve its legitimate objectives of benefiting from space technology for its own development and welfare.

52. The Group further noted that each State is free to determine the nature of its participation in international space cooperation on an equitable and mutually acceptable basis with regard to the legitimate rights and interests of parties' concerns, for example, appropriate technology safeguard arrangements, multilateral commitments and relevant standards and practices.

53. The Group agreed that the Outer Space Treaty should be regarded as a basis for the furthering of international cooperation in outer space activities and, in accordance with article I of the Treaty, that the exploration and use of outer space "shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind".

54. The Group took note of the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (General Assembly resolution 51/122, annex) and specifically noted that the Declaration should form a basis for the development of international cooperation in outer space activities. Paragraphs 3 and 5 of the Declaration are of particular relevance.

55. Bilateral, regional and multilateral capacity-building programmes on space science and technologies can contribute to developing the space skills and knowledge of educators and scientists in developing countries throughout the world. Such programmes should build capacity through a focus on theory, research, applications, field exercises and pilot projects in order to advance social and economic development in their target States and regions. The Group noted that there are many regional and multilateral capacity-building programmes already in place. In particular, the United Nations Programme on Space Applications is a well-established capacity-building programme that would benefit from wider support from spacefaring countries. Other international organizations such as the United Nations Educational, Scientific and Cultural Organization, WMO and ITU contribute specific capacity-building programmes in their respective areas of competence. Capacity-building programmes are also available, in

various formats, at the bilateral level. Such programmes are often associated with a specific cooperation agreement.

56. Adoption of an open satellite data-collection and dissemination policy for sustainable economic and social development would be consistent with General Assembly resolution 41/65, entitled “Principles relating to remote sensing of the Earth from outer space”. In promoting data dissemination policies, States could also consider establishing programmes aimed at training and educating users in developing countries to receive and interpret relevant satellite-based data and to make such data available, useful and accessible to domestic and international end users. The Group noted that some States already disseminate free remote sensing data for the promotion of economic and social development. The Group also noted that the United Nations Conference on Sustainable Development, held in Rio de Janeiro, Brazil, in 2012, recognized the important role that space science and technology play in promoting sustainable development (see General Assembly resolution 66/288, annex).

VI. Consultative mechanisms

57. Timely and routine consultations through bilateral and multilateral diplomatic exchanges and other government-to-government mechanisms, including bilateral, military-to-military, scientific and other channels, can contribute to preventing mishaps, misperceptions and mistrust. They may also be useful in:

- (a) Clarifying information regarding the exploration and use of space, including for national security purposes;
- (b) Clarifying information provided on space research and space applications programmes;
- (c) Clarifying ambiguous situations;
- (d) Discussing the implementation of agreed transparency and confidence-building measures in outer space activities;
- (e) Discussing the modalities and appropriate international mechanisms for addressing practical aspects of outer space uses;
- (f) Preventing or minimizing potential risks of physical damage or harmful interference.

58. States are encouraged to consider using existing consultative mechanisms, for example, those provided for in article IX of the Outer Space Treaty and in the relevant provisions of the ITU Constitution and Radio Regulations.

59. The Group was of the opinion that its establishment, work and consultative function serve as transparency and confidence-building measures in their own right.

VII. Outreach

60. Outreach measures can improve understanding between States as well as regional, multilateral, non-governmental and private sector cooperation. This can help to promote the security of all States by fostering mutual trust through the implementation of political and

diplomatic outreach measures relating to outer space activities. Specific measures may include States' participation in thematic workshops and conferences on space security issues.

61. Spacefaring States should inform the Secretary-General, the general public and the international scientific community of the character, conduct, locations and results of outer space activities, in accordance with the Outer Space Treaty.

62. The Group noted the important intellectual contribution of international organizations and non-governmental organizations to facilitating outreach activities. Such activities provide an opportunity for all States and other relevant stakeholders to develop constructive dialogue. Within the United Nations system, the work of the Office for Outer Space Affairs, the Office for Disarmament Affairs and the United Nations Institute for Disarmament Research are of particular note. States should actively encourage all stakeholders, including academia and non-governmental organizations, to actively participate in raising public awareness about outer space policies and activities.

VIII. Coordination

63. States are encouraged, including through their space agencies or other authorized entities, existing mechanisms and international organizations, to promote the coordination of their space policies and space programmes in order to enhance the safety and predictability of the uses of space. In support of that goal, they may also conclude bilateral, regional or multilateral arrangements, consistent with multilateral commitments.

64. The Group considered that coordination among multilateral organizations engaged in developing transparency and confidence-building measures for outer space activities is essential. Such coordination should be carried out in accordance with the respective mandates of those organizations.

65. The Group agreed that, for the purpose of strengthening coordination in outer space activities, States, international organizations and private sector actors conducting space programmes should establish focal points for coordination.

66. The Group recommended that coordination be established between the Office for Outer Space Affairs, the Office for Disarmament Affairs and other appropriate United Nations entities on matters related to transparency and confidence-building measures for outer space activities. The Group also considered that a United Nations inter-agency mechanism could provide a useful platform for the promotion and effective implementation of transparency and confidence-building measures for outer space activities.

67. States should seek to participate, to the maximum extent possible, in the outer space-related activities of intergovernmental entities of the United Nations system, such as the Conference on Disarmament, ITU, WMO, the Commission on Sustainable Development and any of their successor bodies. States conducting space activities should actively participate, as members or observers, in activities of the Committee on the Peaceful Uses of Outer Space.

IX. Conclusions and recommendations

68. The Group of Governmental Experts recommends that States and international organizations, on a voluntary basis and without prejudice to the implementation of obligations deriving from existing legal commitments, consider and implement the transparency and confidence-building measures described in the present report.

69. The Group endorses efforts to pursue political commitments, for example, in the form of unilateral declarations, bilateral commitments or a multilateral code of conduct, to encourage responsible actions in, and the peaceful use of, outer space. The Group concludes that voluntary political measures can form the basis for consideration of concepts and proposals for legally binding obligations.

70. The Group encourages States to review and implement the proposed transparency and confidence-building measures through relevant national mechanisms on a voluntary basis. Transparency and confidence-building measures should be implemented to the greatest extent practicable and in a manner that is consistent with States' national interests. As specific unilateral, bilateral, regional and multilateral transparency and confidence-building measures are agreed to, States should regularly review the implementation of the measures and discuss potential additional ones that may be necessary, including those necessitated owing to advances in the development of space technologies and in their application.

71. In order to build confidence and trust among States, the Group recommends universal participation in, implementation of and full adherence to the existing legal framework relating to outer space activities, to which they are parties, or subscribe, which includes: the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies; the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space; the Convention on International Liability for Damage Caused by Space Objects; the Convention on Registration of Objects Launched into Outer Space; the Constitution and the Convention of the International Telecommunication Union and its Radio Regulations, as amended; the Convention of the World Meteorological Organization, as amended; the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water; and the Comprehensive Nuclear-Test-Ban Treaty. States that have not yet become parties to the international treaties governing the use of outer space should consider ratifying or acceding to those treaties.

72. The Group of Governmental Experts recommends that the General Assembly decide how to further advance transparency and confidence-building measures and provide for their universal consideration and support, including by referring the above recommendations to the Committee on the Peaceful Uses of Outer Space, the Disarmament Commission and the Conference on Disarmament for consideration, as appropriate. The First and Fourth Committees of the General Assembly may also decide to hold a joint ad hoc meeting to address possible challenges to space security and sustainability.

73. The Group further recommends that Member States take measures to implement, to the greatest extent practicable, principles and guidelines endorsed on the basis of consensus by the Committee on the Peaceful Uses of Outer Space and the General Assembly. Member States should also consider, where appropriate, taking measures to implement other internationally recognized space-related principles.

74. The Group encourages relevant international intergovernmental and non-governmental organizations to consider and implement the proposed transparency and confidence-building measures as appropriate and to the greatest extent practicable.

75. The Group of Governmental Experts recommends that the Secretary-General of the United Nations circulate the present report of the Group to all relevant entities and organizations of the United Nations system in order that they may assist in effectively implementing the conclusions and recommendations contained within it.

Part 2

Background material

I. Resolutions

A. A/RES/45/55 B

Confidence-building measures in outer space

The General Assembly,

Conscious of the importance and urgency of preventing an arms race in outer space,

Recalling that, in accordance with the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, the exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interest of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind,

Aware of the fact that more and more States are taking an active interest in outer space or participating in important space programmes for the exploration and exploitation of that environment,

Recognizing, in this context, the relevancy space has gained as an important factor for the socio-economic development of many States, in addition to its undeniable role in security issues,

Emphasizing that the growing use of outer space has increased the need for more transparency as well as confidence-building measures,

Recalling that the international community has unanimously recognized the importance and usefulness of confidence-building measures, which can significantly contribute to the promotion of peace and security and disarmament, in particular through General Assembly resolutions 43/78 H of 7 December 1988 and 44/116 U of 15 December 1989,

Noting the important work being carried out by the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space of the Conference on Disarmament, which contributes to identifying potential areas of confidence-building measures,

Aware of the existence of a number of different proposals and initiatives addressing this subject, which attests to a growing convergence of views,

1. *Reaffirms* the importance of confidence-building measures as means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space;

2. *Recognizes* their applicability in the space environment under specific criteria yet to be defined;

3. *Requests* the Secretary-General to carry out, with the assistance of government experts, a study on the specific aspects related to the application of different confidence-building measures in outer space, including the different technologies available, possibilities for defining appropriate mechanisms of international co-operation in specific areas of interest and so on, and to report thereon to the General Assembly at its forty-eighth session.

*54th plenary meeting
4 December 1990*

B. A/RES/48/74 B
Study on the application of confidence-building measures in outer space

The General Assembly,

Recalling its resolution 45/55 B of 4 December 1990, in which it requested the Secretary-General to carry out, with the assistance of government experts, a study on the specific aspects related to the application of different confidence-building measures in outer space, including the different technologies available, and possibilities for defining appropriate mechanisms of international cooperation in specific areas of interest,

1. *Takes note* of the report of the Secretary-General,¹ the annex to which contains the study on the application of confidence-building measures in outer space;
2. *Requests* the Secretary-General to arrange for the reproduction of the study as a United Nations publication and to give it the widest possible distribution;
3. *Commends* the study to the attention of all Member States.

81st plenary meeting
16 December 1993

¹ A/48/305 and Corr.1.

C. A/RES/60/66
Transparency and confidence-building measures in outer space activities

The General Assembly,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions which, inter alia, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a conducive means of ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General to its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

1. *Invites* all Member States to inform the Secretary-General before its sixty-first session of their views on the advisability of further developing international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

2. *Decides* to include in the provisional agenda of its sixty-first session an item entitled “Transparency and confidence-building measures in outer space activities”.

61st plenary meeting
8 December 2005

¹ A/48/305 and Corr.1.

D. A/RES/61/75
Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolution 60/66 of 8 December 2005,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, inter alia, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2006,

1. *Invites* all Member States to submit to the Secretary-General before its sixty-second session concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

2. *Requests* the Secretary-General to submit to the General Assembly at its sixty-second session a report with an annex containing concrete proposals from Member States on international outer space transparency and confidence-building measures;

3. *Decides* to include in the provisional agenda of its sixty-second session the item entitled “Transparency and confidence-building measures in outer space activities”.

67th plenary meeting
6 December 2006

¹ A/48/305 and Corr.1.

E. A/RES/62/43
Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolutions 60/66 of 8 December 2005 and 61/75 of 6 December 2006,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, *inter alia*, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2007,

Noting also the contribution of Member States which have submitted to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures pursuant to paragraph 1 of resolution 61/75,

1. *Takes note* of the report of the Secretary-General containing concrete proposals from Member States on international outer space transparency and confidence-building measures;²

2. *Invites* all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

3. *Requests* the Secretary-General to submit to the General Assembly at its sixty-third session a report with an annex containing concrete proposals from Member States on international outer space transparency and confidence-building measures;

4. *Decides* to include in the provisional agenda of its sixty-third session the item entitled “Transparency and confidence-building measures in outer space activities”.

61st plenary meeting
5 December 2007

¹ A/48/305 and Corr.1.

² A/62/114 and Add.1.

F. A/RES/63/68

Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolutions 60/66 of 8 December 2005, 61/75 of 6 December 2006 and 62/43 of 5 December 2007,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, *inter alia*, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2008, including the views and ideas expressed by the European Union and other States,

Noting also the introduction by the Russian Federation and China at the Conference on Disarmament of the draft treaty on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects,

Noting further the contribution of Member States which have submitted to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures pursuant to paragraph 1 of resolution 61/75 and paragraph 2 of resolution 62/43,

1. *Takes note* of the reports of the Secretary-General containing concrete proposals from Member States on international outer space transparency and confidence-building measures;²

2. *Invites* all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

3. *Requests* the Secretary-General to submit to the General Assembly at its sixty-fourth session a report with an annex containing concrete proposals from Member States on international outer space transparency and confidence-building measures;

¹ A/48/305 and Corr.1.

² A/62/114 and Add.1 and A/63/136 and Add.1.

4. *Decides* to include in the provisional agenda of its sixty-fourth session the item entitled “Transparency and confidence-building measures in outer space activities”.

*61st plenary meeting
2 December 2008*

G. A/RES/64/49

Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolutions 60/66 of 8 December 2005, 61/75 of 6 December 2006, 62/43 of 5 December 2007 and 63/68 of 2 December 2008,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, *inter alia*, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2009, including the views expressed by Member States,

Noting also the introduction by China and the Russian Federation at the Conference on Disarmament of the draft treaty on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects,²

Noting further the presentation by the European Union of a draft code of conduct for outer space activities,

Noting the contribution of Member States which have submitted to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures pursuant to paragraph 1 of resolution 61/75, paragraph 2 of resolution 62/43 and paragraph 2 of resolution 63/68,

1. *Takes note* of the reports of the Secretary-General containing concrete proposals from Member States on international outer space transparency and confidence-building measures;³

2. *Invites* all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space;

¹ A/48/305 and Corr.1.

² See CD/1839.

³ A/62/114 and Add.1, A/63/136 and Add.1 and A/64/138 and Add.1.

3. *Requests* the Secretary-General to submit to the General Assembly at its sixty-fifth session a final report with an annex containing concrete proposals from Member States on international outer space transparency and confidence-building measures pursuant to resolutions 61/75, 62/43, 63/68 and the present resolution;

4. *Decides* to include in the provisional agenda of its sixty-fifth session the item entitled “Transparency and confidence-building measures in outer space activities”.

*55th plenary meeting
2 December 2009*

H. A/RES/65/68

Transparency and confidence-building measures in outer space activities

The General Assembly,

Recalling its resolutions 60/66 of 8 December 2005, 61/75 of 6 December 2006, 62/43 of 5 December 2007, 63/68 of 2 December 2008 and 64/49 of 2 December 2009,

Reaffirming that the prevention of an arms race in outer space would avert a grave danger to international peace and security,

Conscious that further measures should be examined in the search for agreements to prevent an arms race in outer space, including the weaponization of outer space,

Recalling, in this context, its previous resolutions, including resolutions 45/55 B of 4 December 1990 and 48/74 B of 16 December 1993, which, *inter alia*, emphasize the need for increased transparency and confirm the importance of confidence-building measures as a means conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space,

Recalling also the report of the Secretary-General of 15 October 1993 to the General Assembly at its forty-eighth session, the annex to which contains the study by governmental experts on the application of confidence-building measures in outer space,¹

Noting the constructive debate which the Conference on Disarmament held on this subject in 2010, including the views expressed by Member States,

Noting also the introduction by China and the Russian Federation at the Conference on Disarmament of the draft treaty on the prevention of the placement of weapons in outer space and of the threat or use of force against outer space objects,²

Noting further the presentation by the European Union of a draft code of conduct for outer space activities,

Noting the contribution of Member States which have submitted to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures pursuant to paragraph 1 of resolution 61/75, paragraph 2 of resolution 62/43, paragraph 2 of resolution 63/68 and paragraph 2 of resolution 64/49,

1. *Takes note* of the final report of the Secretary-General containing concrete proposals from Member States on international outer space transparency and confidence-building measures;³

2. *Requests* the Secretary-General to establish, on the basis of equitable geographical distribution, a group of governmental experts to conduct a study, commencing in 2012, on outer space transparency and confidence-building measures, making use of the relevant reports of the Secretary-General, including the final report, submitted to the General Assembly at its

¹ A/48/305 and Corr.1.

² See CD/1839.

³ A/65/123.

sixty-fifth session, and without prejudice to the substantive discussions on the prevention of an arms race in outer space within the framework of the Conference on Disarmament, and to submit to the Assembly at its sixty-eighth session a report with an annex containing the study of governmental experts;

3. *Also requests* the Secretary-General to provide the group of governmental experts with any assistance and services, within existing resources, that may be required for the discharge of its tasks;

4. *Decides* to include in the provisional agenda of its sixty-sixth session the item entitled “Transparency and confidence-building measures in outer space activities”.

*60th plenary meeting
8 December 2010*

II. Views of Member States

A/65/123

Transparency and confidence-building measures in outer space activities

Report of the Secretary-General

I. Introduction

1. In paragraph 2 of its resolution 64/49, on transparency and confidence-building measures in outer space activities, the General Assembly invited all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space. In paragraph 3 of the same resolution, the General Assembly requested the Secretary-General to submit to the General Assembly at its sixty-fifth session a final report with an annex containing concrete proposals from Member States on international outer space transparency and confidence-building measures pursuant to resolutions 61/75, 62/43, 63/68 and the present resolution.

2. On 26 February 2010, a note verbale was sent to all Member States drawing their attention to paragraphs 2 and 3 of resolution 64/49 and seeking relevant information on the issues outlined above by 31 May 2010. By 31 May 2010, Cuba, Oman, Qatar and Ukraine sent replies, the texts of which are reproduced below. The Office for Disarmament Affairs subsequently received replies from Argentina, Australia and Panama, which are reproduced in section II below. Additional replies received from Member States will be posted on the website of the Office for Disarmament Affairs in the original language received, if so requested and agreed by the relevant Member States.

3. The replies received from Argentina, Canada, China, Colombia, Cuba, Czech Republic (on behalf of the States Members of the United Nations that are members of the European Union), Lebanon, Mexico, Nicaragua, Qatar, Russian Federation, Syrian Arab Republic and Ukraine, in response to resolution 63/68 and previously circulated in the report of the Secretary-General (A/64/138 and Add.1) are reproduced in section III below.

4. The replies received from Bangladesh, Chile, Cuba, France (on behalf of the European Union), Qatar and Ukraine, in response to resolution 62/43 and previously circulated in the report of the Secretary-General (A/63/136 and Add.1) are reproduced in section IV below.

5. The replies received from Austria, Bangladesh, Bolivia, China, Cuba, Kenya, Libyan Arab Jamahiriya, Mexico, Portugal (on behalf of the European Union), Russian Federation and Ukraine, in response to resolution 61/75 and previously circulated in the report of the Secretary-General (A/62/114 and Add.1) are reproduced in section V below.

II. Replies received from Governments in response to resolution 64/49

Argentina

[Original: Spanish]

[3 June 2010]

1. The Argentine Republic is of the view that the existing legal system has proven incapable of averting the danger of the militarization of outer space.

2. It believes that, as a first step, progress must be made towards adopting transparency and confidence-building measures as a significant contribution to creating an atmosphere of understanding and cooperation that will help prevent an arms race in outer space.

3. The process of updating the principles of satellite-based remote sensing of the Earth should begin. The existing principles, which were adopted by a General Assembly resolution in 1986, are no longer suited to the present situation. In particular, they do not provide developing countries with access to the information gathered. Part of the updating process could be to consider establishing the programme of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response, which was considered by the Committee on the Peaceful Uses of Outer Space.

4. Furthermore, it would be appropriate to undertake negotiations in the Conference on Disarmament on an international legal instrument banning the deployment of weapons in outer space. The adoption of such a negotiating mandate, whose scope and significance would be determined by negotiation among the parties, would confirm the will of the international community to avoid an arms race in outer space. Argentina supports the proposal by the Russian Federation and the People's Republic of China to negotiate, in the Conference on Disarmament, a treaty banning weapons in outer space.

5. Unilateral, bilateral, regional and global mechanisms should be established for the provision of information in order to give transparency to space programmes being carried out by States. This could include inviting observers to launches of space objects, demonstrating space technologies and rockets, and notifying of space-vehicle launches and manoeuvres.

6. To that end, the General Assembly could consider setting up a group of governmental experts on outer-space confidence-building measures to determine the scope, focus and terms of reference for the establishment under the United Nations of a mechanism, system or unified voluntary registry of space activities, including notifications. The group's work could be based on existing treaties, codes, principles and global or regional initiatives, including, for example, the mechanism for annual reporting under the Hague Code of Conduct against Ballistic Missile Proliferation.

Australia

[Original: English]

[22 June 2010]

1. The Australian Government, recalling the Outer Space Treaty of 1967, recognizes the need for a safe, secure and peaceful outer space environment, and supports the need for responsible, transparent and rules-based conduct in outer space. Australia is also opposed

to an arms race in outer space. Australia believes that all nations have a right to unhindered access to outer space for peaceful purposes, and that States should avoid taking actions that jeopardize such access, endanger the manned or unmanned space assets of other nations or put the peaceful use of space at risk.

2. Though Australia has no specific concrete proposal at this time, it welcomes the facilitative steps made by the United Nations and its Member States towards establishing effective transparency and confidence-building measures in the peaceful uses of outer space. Australia is currently undertaking the development of its first comprehensive national space policy, and this process may result in Australia elaborating further its position on these issues.

Cuba

[Original: Spanish]
[14 May 2010]

1. The General Assembly, by its resolution 64/49, invited all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space. In response to that invitation, the Government of Cuba wishes to transmit the following views.

2. The prevention of an arms race in outer space is a long-standing requirement of the international community in view of the grave danger it poses to international peace and security. There are various international legal instruments for that purpose, including the Partial Test Ban Treaty (1963), the Outer Space Treaty (1967) and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979).

3. From the outset, those instruments have been an effective means of promoting the peaceful use of outer space and regulating space activities. They have also been important in prohibiting the deployment of weapons of mass destruction and certain military activities in outer space. The current complex international climate demonstrates that the measures adopted are inadequate.

4. Cuba supports the efforts being made by the General Assembly and the Conference on Disarmament, and particularly the need to start negotiations on an international legal instrument banning the deployment of weapons in outer space. In that regard Cuba favours the urgent establishment of an ad hoc committee within the Conference on Disarmament to initiate the negotiations.

5. To that end, Cuba supports the joint initiative put forward on 12 February 2008 by the Russian Federation and the People's Republic of China in the Conference on Disarmament for the adoption of a draft treaty to ban weapons in outer space and the use or threat of force against objects in outer space. This initiative is an important contribution to the work of the Conference and provides a sound basis for subsequent debate on the adoption of a legally binding instrument.

6. The deployment of anti-ballistic missile defence systems and the threat to deploy weapons in outer space have contributed to the erosion of the international climate and hamper the promotion of disarmament and the strengthening of international security.

7. The abrogation of the Anti-Ballistic Missile Treaty presents new challenges to strategic security and the prevention of an arms race in outer space. The deployment of a national anti-ballistic missile defence system could unleash an arms race and lead to the development of advanced missile systems and the proliferation of nuclear weapons.

8. Unfortunately, a considerable number of objects currently located in outer space are for military or espionage purposes and increase the generation of space debris.

9. Cuba reiterates that the revision of the legal framework for outer space should rectify the existing deficiencies regarding its definition, regulations on space debris and the use of nuclear power sources in space. In addition, there is a need to establish clearly the responsibilities of Governments and others involved in current and future space activities.

10. The joint group of experts of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space and of the International Atomic Energy Agency has carried out positive work with a view to elaborating a security framework for the use of nuclear power sources in outer space. Its report should help to speed decisions for more effective control of those sources, as well as measures to limit their use in cases where other technologies exist, particularly in earth orbit, in the light of the heightened dangers they pose at the end of their useful life or in the event of collisions, the generation of space debris or re-entry into the Earth's atmosphere.

11. Cuba reiterates that until there are tangible results regarding the security framework for the use of nuclear power sources in outer space, their use should be restricted as much as possible. In any case, such use should be accompanied by the full and transparent provision of information to other States, including an explanation of the measures taken to guarantee their safety.

12. Transparency and confidence-building measures are no substitute for arms control and disarmament measures; nor are they a precondition for implementation of the latter. Nonetheless, they can facilitate the implementation of disarmament agreements and arms verification. Measures could include:

- Convening an international conference to analyse strict compliance with existing agreements on the peaceful uses of outer space;
- Reviewing the current legal system governing activities in outer space, in the light of technological advances, which action has been constantly blocked by some States in the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space;
- Concluding multilateral agreements for the exchange of information related to the use of outer space;
- Developing international cooperation mechanisms that guarantee all countries equal access to the benefits of the peaceful uses of outer space;
- Exchanging information on States' main policy directions on outer space, major programmes for research and for the use of outer space, and the orbital parameters of space objects;
- Inviting observers to launches of space objects, on a voluntary basis;
- Demonstrating space technologies and rockets;

- Providing notification of scheduled launches of space vehicles, planned space manoeuvres that might come dangerously close to space vehicles of other States and the re-entry of guided space vehicles from orbit into the atmosphere;
- Conducting consultations to clarify information provided on programmes for research and for the use of outer space, on ambiguous situations and on other matters of concern and to examine the implementation of agreed transparency and confidence-building measures for space-based activities.

13. Transparency and confidence-building measures can play an important role in the drafting, approval and implementation of a possible treaty banning the deployment of weapons in outer space and the use or threat of force against space objects. They would also help create favourable conditions for the conclusion of a new agreement.

Oman

[Original: English]
[18 May 2010]

The Permanent Mission of Oman to the United Nations has the honour to inform that the Omani Committee on Civil Aviation suggests the following measures for transparency and confidence-building measures in outer space activities:

1. Provision of all information relating to the activities of outer space by countries working in this area to ensure clarity and transparency;
2. Declaration of all outer space activities that may affect air traffic, human lives and the environment in a way that maintains the national sovereignty of the States;
3. Enactment of legislations incorporating provisions for compensation in case of any damage, including communication systems when requested to be changed and control them;
4. Agreement on semantics and nomenclatures internationally and clearly in all languages;
5. Emphasis of the importance of maintaining outer space as a zone free of weapons, and urging of States that have not become signatories to conventions and treaties on disarmament of outer space to do so;
6. Underscoring that international space law, conventions and the relevant principles be considered as legal references for arbitration;
7. Encouragement of regional and international joint space programmes and provision of universal access through memorandums of understanding, qualifying constructive cooperation between countries.

Panama

[Original: Spanish]
[22 June 2010]

With regard to General Assembly resolution 64/49, we consider it prudent to avoid an arms race in outer space and to support transparency and confidence-building measures among countries as essential factors for the maintenance of peace.

Qatar

[Original: English]
[12 May 2010]

1. The State of Qatar urges States to make their outer space activities public in order to guarantee that no arms race occurs, and that its use remains restricted to peaceful activities that benefit humanity. This should be done through measures that target the promotion of transparency and a mechanism for verification of information announced.

2. The State of Qatar deems it important to articulate a definition of air space and to define its boundaries with outer space.

Ukraine

[Original: Russian]
[12 May 2010]

Ukraine, as a space Power, is interested in keeping outer space free from weapons and military activities. Outer space is the heritage of all humanity and should therefore be used for peaceful purposes. Our Government has consistently advocated the prevention of the militarization of outer space and opposed the placement of any weapons of mass destruction in outer space.

Ukraine, like the Russian Federation, acknowledges that outer space may be used in the interests of national security, to monitor compliance with international disarmament treaties and agreements (space observation systems), to avert a missile attack (systems for detecting missile launches), to direct armed forces and conduct day-to-day and military operations (systems for communication, determination of location, conduct of meteorological, geodetic and cartographic activities, and the like). However, outer space activities should not be directed towards transforming outer space into a potential arena of military action. In the view of Ukraine, it is time to institute a complete ban on the placement and use of weapons of any kind in outer space.

In that connection, we support the view of the Russian Federation that a ban on the placement of weapons in outer space and the development of transparency and confidence-building measures would enhance the predictability of a strategic situation and the preservation of orbital property, a matter which interests all States using outer space for development purposes.

Ukraine welcomes the draft resolution on transparency and confidence-building measures in outer space activities put forward by the Russian Federation and China in the General Assembly and adopted by consensus on 29 October 2009 at its sixty-fourth session. Our country shares Russia's view that the resolution will serve as a further step towards the conclusion of a comprehensive international legal instrument prohibiting the use of force against space objects.

Ukraine also supports the initiative of the Russian Federation and China regarding the need to conclude a treaty banning the placement of weapons in outer space.

Ukraine is convinced that broad international cooperation in the exploration of outer space will strengthen mutual trust among States and will help to promote their collaboration in all spheres of international life. Ukraine takes the view that concrete transparency and confidence-building measures can be attained through international cooperation on the basis of the exchange of information and data. In that regard, Ukraine:

- Reports to the Secretary-General annually on the nature, progress and results of its outer space activities;
- Systematically provides data on space objects that have been launched and on those whose life in orbit has ended;
- Regularly provides information to the international community through the official website of Ukraine's National Space Agency on the number, generic class and payload of space launch vehicles launched;
- Regularly provides the Executive Secretariat of the International Code of Conduct against Ballistic Missile Proliferation with advance notification of the launch of Ukrainian launch vehicles in the context of the Sea Launch programme and with annual statements on Ukraine's policies regarding the launch of space launch vehicles and ballistic missiles.

The International Code of Conduct against Ballistic Missile Proliferation (The Hague Code of Conduct) was adopted in 2002 at an international conference in The Hague. Although that instrument is not legally binding, we are convinced that it has nevertheless been an important step towards ensuring security in outer space. In that regard, Ukraine proposes that the information in the annual statements, which reflect the policies of States subscribing to the Hague Code of Conduct, should be used to prepare a consolidated annual report to the Secretary-General.

In the view of Ukraine, States should strictly comply with the provisions of the international treaties to which they are parties, namely:

- The basic United Nations treaties on outer space (especially taking into account the provisions of 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, of 27 January 1967, and article IV of the Convention on Registration of Objects launched into Outer Space, of 14 January 1975);
- The Comprehensive Nuclear-Test-Ban Treaty, of 24 September 1996;
- The Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space and Under Water, of 5 August 1963.

Ukraine welcomes and supports the work of the multilateral non-proliferation regimes (the Missile Technology Control Regime, the Nuclear Supplier Group, the Zangger Committee, the Australia Group and the Wassenaar Arrangement), and considers that the States

participating in those regimes should comply with the provisions of their guiding documents with a view to ensuring transparency and building trust. Ukraine also supports the initiative for a European code of conduct for outer space activities.

III. Replies received from Governments in response to resolution 63/68

Argentina

[Original: Spanish]

[28 May 2009]

1. The General Assembly, in its resolution 63/68, on transparency and confidence-building measures in outer space activities, invited Member States to submit concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space.

2. The preliminary comments of the Argentine Republic in the matter are as follows:

(a) The Argentine Republic is of the view that the legal system has proven incapable of averting the danger of the militarization of outer space;

(b) It believes that, as a first step, progress must be made in adopting transparency and confidence-building measures as a significant contribution to creating an atmosphere of understanding and cooperation that will help prevent an arms race in outer space;

(c) The process of updating the principles of satellite-based remote sensing of the Earth should begin. The existing principles, adopted by the General Assembly in 1986 in a resolution, are no longer suited to the present situation. It should be noted, in particular, that those principles contain provisions that do not give developing countries access to the information gathered. Part of the updating process could be to consider establishing the programme of the United Nations Platform for Space-based Information for Disaster Management and Emergency Response, which was considered by the Committee on the Peaceful Uses of Outer Space;

(d) Furthermore, it would be advisable that negotiations be undertaken in the Conference on Disarmament — the sole multilateral disarmament negotiating forum — on an international legal instrument banning the deployment of weapons in outer space. Such an instrument would have substantial scope and significance as the outcome of negotiations between the parties; furthermore, its adoption would confirm the will of the international community to avoid an arms race in outer space. Argentina supports the proposal by the Russian Federation and the People's Republic of China to negotiate, in the Conference on Disarmament, a treaty on a space weapons ban;

(e) Establishment of unilateral, bilateral, regional and global mechanisms for the provision of information in order to give transparency to space programmes being carried out by States. This could include inviting observers to launches of space objects, demonstrating space technologies and rockets, notification of space vehicle launches and manoeuvres, etc.;

(f) To that end, the General Assembly could set up a group of governmental experts on outer space confidence-building measures to establish the scope, focus and terms of reference

for the establishment, under the United Nations, of a mechanism, system or unified voluntary registry of space activities, including notifications. The group's work could be based on the relevant existing treaties, codes, principles and global or regional initiatives, including, for example, the mechanism for annual reporting under the Hague Code of Conduct on the launching of ballistic missiles and space launch vehicles.

Canada

[Original: English]
[27 August 2009]

1. Outer space plays an essential role in all aspects of our everyday life and is becoming increasingly important for our national and economic security. Canada is committed to the maintenance of international peace and security in outer space in order to ensure that outer space remains free for exploration and use, for the benefit and the interest of all countries.

2. Physical conflict in outer space should be prohibited if nations want to continue to benefit from the peaceful uses of space. Any physical conflict that can cause damage or destruction has the potential to create long-lived space debris or derelicts, whose subsequent collisions may create additional space debris and pose a threat to vital State assets, which may be critical for national security. Economic and scientific assets, which are of significant importance to global economic growth and scientific understanding, may also be compromised.

3. A possible transparency and confidence-building measure could be for nations to pledge:

- (a) To ban the placement of weapons in outer space;
- (b) To prohibit the testing and use of weapons on satellites so as to damage or destroy them;
- (c) To prohibit the use of satellites themselves as weapons.

4. This pledge would follow the 13 June 2006 statement by Mr. John Mohanco, Deputy Director of the Office of Multilateral Nuclear and Security Affairs of the United States Department of State, at the Conference on Disarmament, stating that the United States has no plans to build space weapons.¹

5. This pledge would also follow the 8 June 2006 statement by Ms. Fiona Paterson, Deputy Permanent Representative of the United Kingdom of Great Britain and Northern Ireland to the Conference on Disarmament, at the Conference on Disarmament, reiterating that the United Kingdom has no plans to deploy weapons in space.²

6. This pledge would further follow the 1 February 2005 statement by Ambassador Leonid Skotnikov of the Russian Federation to the Conference on Disarmament, articulating that Russia would not be the first nation to place a weapon in outer space.³

¹ CD/PV.1025.

² CD/PV.1024.

³ CD/PV.970.

7. The international community has the opportunity to preserve outer space for peaceful purposes through a prohibition on physical conflict in outer space, prior to hostilities ever erupting in this domain. Canada therefore calls upon all nations to initiate the process to achieve this aim by announcing their respective pledges in an appropriate forum.

8. In a statement by Ambassador Marius Grinius on 26 March 2009, Canada put forward the proposal that such security guarantees developed within the Conference on Disarmament could become a foundation for appropriate legal protections.⁴

China

[Original: Chinese and English]

[19 September 2009]

1. China supports resolution 63/68 adopted by the General Assembly at its sixty-third session. Detailed ideas and relevant proposals on transparency and confidence-building measures in outer space activities have been reflected in the joint working paper submitted to the Conference on Disarmament by China and the Russian Federation in 2006 as contained in document CD/1778.

2. China is of the view that appropriate transparency and confidence-building measures in outer space are conducive to reducing possible misunderstandings among countries with regard to their respective activities in outer space, increasing mutual trust, and facilitating international cooperation on peaceful uses of outer space and, to some degree, are helpful to guaranteeing the security of outer space activities and realizing the goal of prevention of an arms race in outer space. In fact, commitment to refrain from placing weapons in outer space and to prevent the weaponization of and an arms race in outer space per se would be one of the most important transparency and confidence-building measures in outer space activities. However, transparency and confidence-building measures are not legally binding, thus cannot plug the loopholes in existing international legal instruments. These measures can be complementary to a negotiated international legal instrument on preventing the weaponization of and an arms race in outer space, but cannot replace the legal instrument.

3. China believes that the best way to prevent the weaponization of and an arms race in outer space is to conclude a new international legal instrument through negotiation. In recent years, China, together with the Russian Federation and many other countries, has been actively promoting in the Conference on Disarmament the negotiation and conclusion of an international legal instrument on preventing the weaponization of and an arms race in outer space. In February 2008, China and the Russian Federation jointly submitted to the Conference on Disarmament a draft treaty on the prevention of the placement of weapons in outer space, and the threat or use of force against outer space objects, which has been welcomed by the majority of the members of the Conference on Disarmament. China hopes that the Conference on Disarmament will start substantive work and formal negotiation on the draft treaty as soon as possible.

⁴ “Statement by Canada in the CD On Tabling of Canada’s Working Paper on TCBMs for Space Security”, Ambassador Marius Grinius, 26 March 2009, [http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/354F156CA8A8D44FC1257585003D51EF/\\$file/1134_Canada_Space_E.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/354F156CA8A8D44FC1257585003D51EF/$file/1134_Canada_Space_E.pdf) (accessed 6 July 2009).

4. China will continue to make joint efforts with all countries to actively promote the prevention of weaponization of and an arms race in outer space and to commit itself to maintaining peace and security in outer space.

Colombia

[Original: Spanish]
[29 May 2009]

Statement of problem

1. Currently, the activities that can take place in outer space help to improve the quality of human life through the establishment of operational communications, weather forecasting, disaster early warning, environmental monitoring, distance education and global navigation satellite systems, among other things.

2. The United Nations promotes the creation of regulatory mechanisms to ensure that all of those activities are carried out solely for peaceful purposes “by all countries regardless of their degree of economic or scientific development, without detriment to the security of any State, and in keeping with the spirit, intent and purpose of the treaty containing the principles governing activities involving the uses of outer space”.

3. The General Assembly created the Committee on the Peaceful Uses of Outer Space, which comprises 61 Member States and coordinates the activities of the United Nations in that area.

4. Nevertheless, the international community is concerned about outer space activities that may involve the deployment of military systems, which could unleash an arms race, and the use of nuclear power sources in outer space. This situation is a reality because the legal system that applies to outer space is insufficient to guarantee its non-militarization.

5. These activities have undermined confidence in matters of outer space and are conducive to an arms race in space. That being the case, the consequences for the safety of the human race could be incalculable, since development and the free exploration and peaceful use of space may be affected.

Proposals on outer space confidence-building activities

6. As a consequence of the foregoing, international outer space transparency and confidence-building measures are necessary to ensure peace of mind for the international community. We therefore propose:

(a) Developing a mechanism whereby States periodically submit reports on the activities they are undertaking in outer space and the reasons for them;

(b) Creating a mechanism whereby States’ activities in outer space can be verified;

(c) Finally, it is important to consider creating, with the help of international cooperation, a specially designed system for the detection and management of space debris.

Cuba

[Original: Spanish]

[2 July 2009]

1. The General Assembly, by its resolution 63/68, invited all Member States to continue to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space. In response to this invitation, the Government of Cuba wishes to convey the following considerations.

2. It was quite some time ago that the prevention of an arms race in outer space gave way to expressions of global concern about the grave danger to international peace and security that such an arms race would represent. As a consequence, the international community has established a number of legal instruments for that purpose, including the Partial Test Ban Treaty (1963), the Treaty on Peaceful Uses of Outer Space (1967) and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979).

3. Those instruments have played a positive role in promoting the peaceful use of outer space and in regulating space activities. They have also been important in prohibiting the deployment of weapons of mass destruction and certain military activities in outer space.

4. Cuba supports the efforts being made in that respect by the General Assembly and the Conference on Disarmament, in particular the negotiation in the Conference of an international legal instrument banning the deployment of weapons in outer space, and to that end it favours the urgent establishment of a special committee to start the negotiations. General Assembly resolution 63/68 is a very important contribution to the efforts to prevent an arms race in outer space.

5. At the recent ministerial meeting of the Coordinating Bureau of the Non-Aligned Countries held in Havana in April 2009, heads of State or Government expressed their concern about the negative consequences of developing and deploying anti-ballistic missile defence systems and seeking advanced military technologies that can be deployed in outer space, which could unleash an arms race and lead to the development of advanced missile systems and the proliferation of nuclear weapons.

6. Current international events are demonstrating, however, that these treaties are no longer enough to prevent the deployment of weapons in space. Unfortunately, a considerable number of objects now located in outer space are not intended to solve the problems of humankind, but instead are being used for military or espionage purposes and are adding to the generation of space debris. This is one of the main problems we are currently facing in outer space.

7. Last year, we witnessed the official submission to the Conference on Disarmament, in Geneva, of a joint initiative by the Governments of the Russian Federation and the People's Republic of China consisting of a draft treaty for a ban on weapons in outer space. This initiative, which has gained the support of various countries, seeks to ban not only space-based arms development, but also the use of force against satellites or any other type of space object.

8. Cuba reiterates that this is a concrete measure in the interest of maintaining international peace and security in outer space activities whose realization will require the

support of the international community. Nevertheless, it is opposed by countries such as the United States of America, which has not given up plans for its anti-missile shield programme, which includes elements ranging from laser cannon to anti-satellite missiles.

9. Transparency and confidence-building measures are no substitute for arms control and disarmament measures, nor are they a precondition for implementation of the latter. Nonetheless, they can facilitate the implementation of disarmament agreements and arms verification. Measures could include:

- Convening an international conference to analyse strict compliance with existing agreements on the peaceful uses of outer space
- A review of the current legal system governing activities in outer space in the light of technological advances, which has been permanently blocked by some States in the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space
- Adoption of multilateral agreements for the exchange of information related to the use of outer space
- Development of international cooperation mechanisms that guarantee all countries equal access to the benefits of the peaceful uses of outer space
- Exchange of information on States' main policy directions on outer space, major space research programmes and programmes for the use of outer space, and the orbital parameters of space objects
- Inviting observers to launches of space objects, on a voluntary basis
- Demonstration of space technologies and rockets
- Notification of scheduled launches of space vehicles, planned space manoeuvres that may come dangerously close to the space vehicles of other States and the re-entry of guided space vehicles from orbit into the atmosphere
- Consultations to clarify information provided on research programmes and programmes for the use of outer space, on ambiguous situations and on other matters of concern and to examine the implementation of the transparency and confidence-building measures agreed upon for space-based activities.

10. With respect to the use of nuclear power sources in outer space, which is also a matter of international concern, Cuba believes that, until the safety framework is sufficiently clear and progress has been made towards more concrete agreements in that respect, this activity should be restricted as far as possible. This limited use should be accompanied by full and transparent information to other States explaining what measures have been taken to guarantee safety.

11. Transparency and confidence-building measures can play an important role in the drafting, approval and implementation of a new treaty banning the deployment of weapons in outer space and the use or threat of force against space objects. They will also help create favourable conditions for the conclusion of a new agreement.

Czech Republic (on behalf of the States Members of the United Nations that are members of the European Union)

[Original: English]
[28 May 2009]

Introductory note

1. The European Union considers that, in the context of expanding space activities that contribute to the development of nations, it is important to improve their security and the security of objects in space. The European Union continues to attach great importance to this issue and is committed to the development and implementation of transparency and confidence-building measures for the peaceful and secure use of outer space. The unprecedented collision between two satellites that occurred in the beginning of February 2009 clearly proved the usefulness of the pragmatic and concrete approach adopted by the European Union.

2. The European Union attaches great importance to the relevant existing agreements on outer space activities, which already provide a wide range of transparency and confidence-building measures, and sees them as the basis on which we should build upon.

3. The European Union voted in favour of General Assembly resolutions 61/75, 62/43 and 63/68 on transparency and confidence-building measures in outer space activities. The broad support garnered by these resolutions confirmed the importance of establishing a voluntary regime encompassing transparency and confidence-building measures based, *inter alia*, on the following principles:

- (a) Freedom for all to use outer space for peaceful purposes;
- (b) Preservation of the security and integrity of space objects in orbit;
- (c) Due consideration for the legitimate security and defence interests of States.

4. The European Union also recognizes the work of the United Nations Committee on the Peaceful Uses of Outer Space. The Space Debris Mitigation Guidelines endorsed by the Committee in June 2007 and by the General Assembly in its resolution 62/217 are useful contributions to the preservation of the space environment. They are fully conformable with the aims of the European Union plan for a code of conduct for outer space activities.

5. The European Union also supports the initiative aimed at guaranteeing the long-term sustainability of space activities presented to the United Nations Committee on the Peaceful Uses of Outer Space as a proposed new agenda item. The continued involvement of numerous States, as well as commercial operators and relevant international organizations, reflects the interest in and importance that they attach to the search for concrete measures to strengthen the security of outer space activities. This initiative is fully consistent with and complementary to the European Union plan for a draft code of conduct for outer space activities. The European Union supports that, at the June 2009 main Committee meeting, the long-term sustainability of space activities be formally added to the 2010 agenda of the Committee's Scientific and Technical Subcommittee.

6. In the European context, a European code of conduct for space debris mitigation was adopted in 2004, aimed at reducing the generation of debris in outer space. Furthermore, the European Union adopted the European Space Policy, which is aimed at developing better

coordination among the European Union, the European Space Agency and their member States.

Draft code of conduct for outer space activities

7. Following the joint reply to resolution 61/75, in which the European Union expressed its intention to propose a code of conduct on space objects and space activities, the European Union developed, at the expert level, a draft code of conduct for outer space activities, which was supported by the Council of the European Union on 8 and 9 December 2008.

8. The European Union believes that a voluntary code of conduct, which is not legally binding, will strengthen safety, security and predictability of activities in outer space, among other things, by limiting or minimizing harmful interference, collisions or accidents in outer space.

9. The draft code of conduct for outer space activities is based on the three main principles mentioned above (see para. 3) that should guide space activities.

10. The draft code of conduct is applicable to all outer space activities conducted by States or non-governmental entities, including the activities carried out within the framework of international intergovernmental organizations. It covers civil as well as military outer space activities.

11. The draft code of conduct calls for progress towards adherence to, and implementation of, the existing United Nations treaties, principles and other arrangements, as the subscribing parties would commit to complying with them, to making progress towards adherence to them, to implementing them, and to promoting their universality.

12. The draft code of conduct complements the existing framework by codifying new and innovative best practices in space operations, including notification, consultation, investigation and information mechanisms that would strengthen the confidence and transparency between space actors; it will then contribute to developing good faith solutions that will permit the performance of space activities and access to space for all. According to the draft code, the subscribing States will implement, inter alia, the following confidence-building measures:

(a) In order to minimize the possibility of accidents in space, collisions between space objects or any form of harmful interference with other States' right to the peaceful exploration and use of outer space, the subscribing States will establish and implement national policies and procedures and will take appropriate steps to minimize the mentioned risks;

(b) In order to limit the creation of space debris and reduce its impact in outer space, the subscribing States will implement the Space Debris Mitigation Guidelines of the Committee for the Peaceful Uses of Outer Space endorsed by General Assembly resolution 62/217;

(c) In order to prevent accidents and collisions between space objects, the subscribing States will share information on national space policies on an annual basis. They will commit to notifying, in a timely manner, the scheduled manoeuvres; relevant orbital parameters; collisions or accidents; and objects with significant risk of re-entry into the atmosphere or of orbital collision. They will also create a central point of contact and an electronic database;

(d) Moreover, the subscribing States will create a consultation mechanism to achieve acceptable solutions in case of existing reasons to believe that certain space activities are contrary to the purpose of the draft code.

13. The code of conduct will lay down the basic rules to be observed by spacefaring nations in both civil and military space activities; however, it does not include any provisions concerning the placement of weapons in outer space. The purpose of the draft code is not to duplicate or compete with initiatives already dealing with this issue. Nonetheless, as a transparency and confidence-building instrument, the draft does insist, inter alia, on the importance of taking all measures in order to prevent space from becoming an area of conflict and calls on nations to resolve any conflict in outer space by peaceful means.

Participation in the code of conduct for outer space activities

14. The aim of the authors is to reach soon a text that is acceptable to the greatest number of countries and can thus bring effective security benefits in a relatively short term. For this purpose, the European Union launched consultations with the countries which have activities or interests in outer space.

15. At the end of the aforesaid process, the European Union hopes to complete the development of the code of conduct that will be open for accession by all States on a voluntary basis at an ad hoc conference.

Lebanon

[Original: Arabic]
[31 March 2009]

The Ministry of Defence notes that Lebanon does not engage in any activities in outer space and affirms the following:

- World peace must be preserved in space and the occurrence of any arms race or “star wars” prevented;
- International cooperation and mutual understanding must be strengthened in compliance with the Declaration on Principles of International Law;
- The Secretary-General of the United Nations must be notified by the States parties of any phenomenon they may discover in outer space that endangers human life or health;
- The necessary legislation and strict deterrent regulations must be established to prevent the exploitation and utilization of outer space and an arms race;
- There must be greater transparency, and acknowledgement of the importance of confidence-building measures as a means of ensuring the attainment of the objective of preventing armament in outer space and the establishment of bases or installations therein;
- Missile and nuclear activities in space should be monitored in order to avert the dangers arising from such activities, which are a threat to peace and security.

Mexico

[Original: Spanish]

[31 March 2009]

1. Mexico considers that protecting the infrastructure of space-based assets is a priority, and towards that end it is essential to avert a major accident in outer space. One way of preserving outer space for exclusively peaceful purposes is to strengthen international cooperation, in particular with respect to the safety and protection of space assets. In this regard and in accordance with Mexico's commitment to maintain the peaceful and universal character of outer space, our country is promoting greater transparency in the activities carried out in this area by the different States, in particular with reference to the Latin America and Caribbean region.

2. Mexico has participated actively in the five Space Conferences of the Americas and contributes to the implementation of the measures identified in their plans of action. At the present time it is considering the possibility of hosting the sixth Space Conference of the Americas, as it considers participation in such forums important because, among other reasons, the United Nations General Assembly has urged the Committee on the Peaceful Uses of Outer Space to continue studying ways and means of fostering regional and interregional cooperation.

3. In the legal sphere, Mexico's aim is for the universal application of the provisions contained in United Nations treaties relating to outer space to help promote international cooperation in the peaceful uses of outer space and foster greater transparency and confidence in space activities. Mexico considers that the implementation of voluntary guidelines on the reduction of space debris at the national level would lead to greater mutual understanding with respect to space activities and thereby would increase stability in space and reduce the likelihood of friction and conflicts. In Mexico's view, it is essential that States that have not yet ratified or acceded to these treaties should consider the possibility of doing so.

4. In short, Mexico supports access by all States to the benefits of the peaceful use of science and space technology through international cooperation, including training and education for personnel and participation in international projects entailing the transfer of technology.

Nicaragua

[Original: Spanish]

[11 March 2009]

1. Nicaragua recognizes the interest and right of all States with respect to the exploration and utilization of outer space for peaceful purposes. However, given the current state of international law and in the light of recent events, there is a need to strengthen the implementation of the existing instruments in order to prevent an arms race in outer space, which would have serious consequences for international peace and security. In addition, as stated in the Final Document of the 2006 Summit Conference of the Non-Aligned Movement, held in Havana, there is an urgent need for the commencement of substantive work in the Conference on Disarmament on the prevention of an arms race in outer space.

2. There is a need to ensure that Member States that carry out significant peaceful scientific activities in outer space should share their experience with States that do not have space programmes through a specific mechanism for this purpose covering existing and future space programmes.

3. Outer space affairs are handled by the Nicaraguan Civil Aeronautics Institute (INAC), a body of the Ministry of Transport and Infrastructure of the Government of Nicaragua. Nicaragua's primary interest has been and continues to be to benefit from access to satellite technology for use in aviation communications, meteorology and geographical information systems such as the global positioning system (GPS). Nicaragua has access to these systems through institutions that cooperate with it, such as the Central American Corporation for Air Navigation Services (COCESNA), the International Civil Aviation Organization (ICAO) in the field of aviation, and the World Meteorological Organization (WMO) in the field of meteorology.

4. It is keen to participate actively in international forums to promote greater development and understanding of the peaceful uses of outer space. Its policy favours developing these means for scientific and peaceful purposes.

5. Nicaragua shares the concern of the international community over possible accidents or safety failures connected with the use of nuclear power sources in outer space that have been developed for and installed on spacecraft, precisely in those cases where the specific requirements of the mission and limitations with respect to electric power and thermal management rule out the use of non-nuclear power sources.

6. Nicaragua takes the view that close attention must be paid to these matters, owing to the presence of radioactive or combustible nuclear materials in nuclear power sources used in outer space and the possibility that they can cause harm to persons or the environment of the Earth's biosphere should an accident occur. We believe that safety must always be an intrinsic element in the design and use of this kind of technology. It is important to take into account that safety, that is to say the protection of persons and the environment, must be an integral part of research in this field.

Qatar

[Original: Arabic]
[14 April 2009]

The State of Qatar affirms the need for transparency in activities in outer space. Such activities should be restricted to peaceful uses for the benefit of mankind and the militarization of outer space or its use for military or missile-related activities should be avoided. We also support the development of a unified definition of outer space, the entry into force of a treaty on the prevention of an arms race in outer space, and guarantees of the right of States to conduct peaceful scientific research related to outer space.

Russian Federation

[Original: Russian]

[13 July 2009]

1. The Russian Federation considers that confidence-building measures help to ensure peace, security and stability at all levels, to eliminate possible threats and overcome challenges to peace and security, and to prevent military confrontation, while facilitating the management of situations that could lead to international tension. They make a significant contribution to improving inter-State relations and the development of dialogue and cooperation between countries.

2. Transparency and confidence-building measures in outer space activities, in view of the growing dependence of all countries in the world on the outcome of such activities, are an important component of confidence-building measures, which also include measures on land, at sea and in the air, and are intended to achieve similar aims. They are recognized as helping to prevent the emergence of outer space as a new sphere of confrontation, to avoid a new nuclear arms race and to establish conditions for the predictability of the strategic situation in outer space, the security of space activities and the protection of space assets. These measures may become a significant field for broad multilateral cooperation.

3. A number of transparency and confidence-building measures in outer space activities are already included in international agreements on outer space: the 1967 Outer Space Treaty, the 1968 Astronauts Rescue Agreement, the 1972 Liability Convention and the 1975 Registration Convention. Some of these measures are applied by States as a unilateral initiative and are political obligations.

4. Transparency and confidence-building measures are not, however, all-embracing in terms either of their coverage of the various types of outer space activity or of the participation of States in their implementation. Joint work is needed on additional measures in this area that are appropriate to the current stage of development of humanity.

5. In this work it would be useful to consider the results of the study on the application of confidence-building measures in outer space that was conducted by a group of governmental experts over the period 1990-1993 (it is included in the report by the Secretary-General contained in document A/48/305) and also other related proposals introduced by States, including some proposals in connection with General Assembly resolution 61/75.

6. In order to conduct a more in-depth study of issues relating to transparency and confidence-building measures and prepare recommendations for further work in this area, it would be useful to establish a group of governmental experts with the appropriate mandate.

7. The Russian Federation draws the attention of the international community to a number of unfortunate incidents that have occurred in the course of outer space activities: the collision between Russian Federation and United States space satellites on 10 February 2009, and the dangerous proximity of a number of space objects and pieces of space debris to the International Space Station. These incidents illustrate the importance of addressing the issue of foreseeing and providing early warnings of dangerous incidents in outer space.

The Russian Federation is making the following addition to its previous suggestions for possible transparency and confidence-building measures: the exchange of information on foreseeable dangerous situations in outer space. The aim of such a measure would be to prevent

or minimize the consequences of dangerous incidents in outer space. Its implementation would consist of providing information to interested countries and international space organizations on the situation in outer space, on possible dangerous incidents that are forecast for a specific time period, such as the proximity and collision of space objects, or the uncontrolled movement out of orbit or planned manoeuvres of space objects. Such information would be provided through an appropriate exchange mechanism, in an agreed volume and format, and would be corrected as a matter of urgency when necessary.

8. Additional proposals of the Russian Federation in relation to possible transparency and confidence-building measures which are both relevant and forward-looking are set out below. This list is not exhaustive in nature but could, in our opinion, serve as a basis for further discussion.

9. Possible transparency and confidence-building measures fall into several categories:

- Measures aimed at enhancing the transparency of outer space programmes;
- Measures aimed at expanding the information available on outer space objects in orbit;
- Measures related to the rules of conduct for outer space activities.

10. Such measures may be carried out in various ways, including exchange of information, familiarization visits, notifications, consultations and thematic workshops:

(a) Exchange of information on:

- (i) The main directions of States' outer space policy;
- (ii) Major outer space research and use programmes;
- (iii) Orbital parameters of outer space objects;
- (iv) Foreseeable dangerous situations in outer space;

(b) Familiarization visits:

- (i) Expert visits, including visits to space launch sites, flight command and control centres and other outer space infrastructure facilities;
- (ii) Invitation of observers to launches of spacecraft;
- (iii) Demonstrations of rocket and space technologies;

(c) Notification of:

- (i) Planned spacecraft launches;
- (ii) Scheduled spacecraft manoeuvres that could result in dangerous proximity to spacecraft of other States;
- (iii) The beginning of descent from orbit of unguided space objects and the predicted impact areas on Earth;
- (iv) The return from orbit into the atmosphere of a guided spacecraft;
- (v) The return of spacecraft with a nuclear power source on board, in the case of malfunction and danger of radioactive materials descending to Earth;

- (d) Consultations:
 - (i) To clarify the information provided on outer space research and use programmes;
 - (ii) On ambiguous situations, as well as on other issues of concern;
 - (iii) To discuss the implementation of agreed transparency and confidence-building measures in outer space activities;
- (e) Thematic workshops on various outer space research and use issues, organized on a bilateral or multilateral basis, with the participation of scientists, diplomats, military and technical experts.

Syrian Arab Republic

[Original: Arabic]
[9 March 2009]

1. The Syrian Arab Republic considers that outer space is the heritage of all mankind and must be used for peaceful purposes and for the benefit of all States.
2. The Syrian Arab Republic emphasizes that the increased importance of outer space, particularly in the field of communications and data exchange at the cosmic level, requires cooperation between all States in order to ensure the continued peaceful and fully transparent utilization of space. The Syrian Arab Republic also emphasizes the necessity of taking measures to ensure confidence-building and the exchange of data between all States, particularly those States that engage in space activities.
3. The Syrian Arab Republic considers that those States that have capabilities in outer space bear a responsibility to ensure its peaceful and non-military utilization, to refrain from engaging in an arms race in outer space and to keep it free of all kinds of weapons of mass destruction.
4. The Syrian Arab Republic expresses its support for the establishment of a subsidiary body of the Conference on Disarmament — as the only multilateral negotiating forum in the field of disarmament — to hold negotiations on a convention to prevent an arms race in outer space as part of a comprehensive and balanced programme of work dealing, on an equal footing, with the substantive issues on its agenda.
5. In this connection, the Syrian Arab Republic expresses its support for the joint Russian-Chinese initiative on a draft treaty prohibiting an arms race, the stockpiling of weapons in outer space and the threat of force against targets in outer space that was submitted to the Conference on Disarmament on 12 February 2008.

Ukraine

[Original: Russian]
[10 April 2009]

1. Ukraine, as a space power, is interested in keeping outer space free from weapons and military activities. Outer space is the heritage of all humanity and should therefore be

used for peaceful purposes. Our Government has consistently advocated the prevention of the militarization of outer space and opposed the placement of any weapons of mass destruction in outer space.

2. The root of the problem with regard to military security in outer space is the fact that international space law prohibits only the placement in orbit of weapons of mass destruction and nuclear weapon tests in the atmosphere. It does not prohibit the use of outer space for military purposes or the use in outer space of weapons other than weapons of mass destruction. However, the placement of weapons in outer space will have negative consequences for arms control and will essentially lead to armed conflict in outer space itself. In the opinion of Ukraine, the time has come for a complete prohibition on the placement and use of any kind of weapon in outer space, which is the common heritage of mankind. We agree that the most effective way to resolve this issue is to draft a new treaty that would fill the existing gaps in international space law.

3. Ukraine supports the initiative of the Russian Federation and China for the conclusion of a treaty on prevention of the placement of weapons in outer space and the threat or use of force against outer space objects.

4. Ukraine, as a country with significant capacities for conducting outer space programmes, has consistently and rigorously adhered to the international legal principles regulating outer space activities.

5. Ukraine supports the view that transparency and confidence-building measures in outer space activities help to create an environment conducive to resolving international problems, and improving and developing international relations on the basis of cooperation, while facilitating the management of situations that could lead to international tension. Transparency and confidence-building measures as such reduce the risk of a mistaken perception or assessment of another State's military activity, while contributing to the prevention of military confrontation and the application on that basis of the principle of the non-use of force or of the threat of force, and the strengthening of regional and global stability.

6. Ukraine is convinced that broad international cooperation on the exploration of outer space builds mutual confidence between States and contributes to the development of their cooperation in all areas of international life. Ukraine also holds the view that one of the ways to achieve the goal of identifying concrete measures for transparency and confidence-building in outer space is international cooperation based on the exchange of information and data. The Government of Ukraine implements the following transparency and confidence-building measures in relation to outer space activities:

- Reports to the Secretary-General each year on the nature, progress and results of its outer space activities
- Systematically provides data on space objects that have been launched and space objects that are no longer in orbit
- Provides information to the international community on a regular basis through the official website of the National Space Agency of Ukraine on the number, generic class and payload of Ukrainian space launch vehicles launched
- Provides the Executive Secretariat of the International Code of Conduct against Ballistic Missile Proliferation with prior notifications on a regular basis of launches of Ukrainian launch vehicles in the context of the Sea Launch programme and annual statements on Ukraine's policies regarding the launching of outer space launch vehicles and ballistic missiles.

7. Ukraine believes that States should strictly comply with the provisions of international treaties to which they are parties, namely:

- The basic United Nations treaties on outer space (particularly taking account of the provisions of 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, of 27 January 1967, and article IV of the Convention on Registration of Objects Launched into Outer Space of 14 January 1975)
- The Comprehensive Nuclear-Test-Ban Treaty of 24 September 1996
- The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water of 5 August 1963.

8. Ukraine supports the initiative for a European code of conduct for outer space activities.

9. In addition, Ukraine proposes that the information from the annual declarations providing an outline of the policies of the States subscribing to the Hague Code of Conduct with respect to launch programmes for ballistic missiles and space launch vehicles be used to draw up an annual consolidated report by the Secretary-General.

10. Ukraine supports the view that the work on transparency and confidence-building measures in outer space activities (as in the context of the Conference on Disarmament and the First Committee of the General Assembly) may be an important consolidating factor in relation to outer space, and also lead to specific results:

- A careful and responsible approach to the exploration and use of outer space
- The achievement of strategic stability and international security
- The strengthening of a climate of confidence and cooperation in outer space activities.

IV. Replies received from Governments in response to resolution 62/43

Bangladesh

[Original: English]
[25 August 2008]

An arms race in outer space would endanger international peace and security. Bangladesh does not support outer space weaponization and emphasizes that prevention of an arms race in outer space, including a ban on the deployment or use of weapons therein is instrumental in avoiding threats to peace and security. There is a common interest of mankind in the exploration and use of outer space for peaceful purposes. As such, cooperative measures among Member States in outer space activities should be ensured. Member States having significant outer space activities should extend security assurances to those who do not have outer space programmes. A mechanism should be put in place allowing Member States to derive benefits from the peaceful use of outer space activities through existing and future outer space programmes.

Chile

[Original: Spanish]

[14 May 2008]

Pursuant to General Assembly resolution 62/43 entitled “Transparency and confidence-building measures in outer space activities” adopted on 5 December 2007, the Government of Chile proposes the following actions and measures to increase transparency and confidence:

(a) States should conclude a single, comprehensive and updated treaty that encompasses all space legislation. The existing Outer Space Treaty dates back to 1967 and thus needs to be revised to update the legal components and reflect technological advances;

(b) Specific regulations pertaining to space debris should be elaborated; these should reflect the obligations of States with respect to such debris and should cover possible damage to persons, property and other activities as well as the safety of spacecraft during scheduled re-entry. In that connection, States should be encouraged to ensure prompt, effective implementation of the legal mechanisms governing the exploitation and utilization of outer space for peaceful purposes. Outer space activities continue to increase and the growing number of outer space objects in orbit presents new challenges;

(c) It is also important to continue improving the international legal regime regulating outer space. Although the voluntary guidelines for the mitigation of space debris called for in General Assembly resolution 62/217 (para. 27) are welcome, States need to establish an international legal order that is more complete, effective and preventive; set effective guidelines that can be applied in emergencies; ensure access to timely, accurate information concerning re-entry of debris; and facilitate due coordination among the most affected countries;

(d) A clear distinction should be made between military use, militarization and the arms race in outer space. Military use is governed by customary practice; this includes, for example, monitoring the compliance of disarmament treaties. Militarization and the arms race in outer space, on the other hand, are prohibited by legal principles;

(e) The principles relating to remote sensing of the Earth by satellites, which were approved by the General Assembly in its resolution 41/64 (1986), should be updated. The existing principles have been superseded over time; they also place restrictions on the access of developing countries to space-based information, which could impede natural disaster management. States should firmly support the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-SPIDER), which has been endorsed by the Committee on the Peaceful Uses of Outer Space (COPUOS);

(f) The initiative Prevention of an Arms Race in Outer Space (PAROS) should be renewed without delay, within the framework of the Conference on Disarmament in Geneva;

(g) States should seek an advisory opinion from the International Court of Justice concerning the application and scope of the principle of the non-use of force in outer space;

(h) States are urged to implement General Assembly resolution 62/20 (2007) on the prevention of an arms race in outer space, which reiterates the need to consolidate and reinforce the legal regime applicable to outer space, since the current regime does not in and of itself guarantee the prevention of an arms race in outer space. The existing regime does not

ban anti-satellite arms, which makes it difficult to establish a more comprehensive confidence-building mechanism. The development of weapons in outer space needs to be reviewed;

(i) At the regional level, the International Group of Experts and the respective pro tempore secretariats of the Space Conferences of the Americas should issue statements promoting increased transparency and confidence-building.

Cuba

[Original: Spanish]

[15 June 2008]

1. Beginning in the 1960s, the international community adopted a series of legal instruments on outer space including the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (1963), the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967) and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (1979). These instruments have played a constructive part in the promotion of the peaceful uses of outer space and the regulation of outer space activities. They have also been of significance in relation to the ban on the deployment of weapons of mass destruction and certain military activities in outer space.

2. The majority of countries recognize that the arms race represents a grave threat to international peace and security; the prevention of an arms race in outer space has therefore long been a universal goal. Unfortunately, current developments prove that the existing treaties and agreements have failed to eliminate the dangers of the militarization of outer space and that they are insufficient to prevent the deployment of weapons in the cosmos.

3. The existing multilateral machinery dealing with disarmament and arms control has the important responsibility of prevailing on the will of the international community in this regard. Cuba supports the efforts under way in the General Assembly and the Conference on Disarmament, especially the negotiation in the Conference of an international legal instrument on banning the deployment of weapons in outer space, and to this end it supports the establishment of a special or ad hoc committee to initiate negotiations.

4. Cuba shares the view both of countries that consider that the need to negotiate a new legal instrument arises because the existing treaties do not effectively prevent the testing, deployment and use of weapons, with the exception of weapons of mass destruction in outer space, especially in orbit around the Earth, on celestial bodies other than the Moon and in outer space, and of countries that maintain that none of these legal instruments is relevant to the question of the use or threat of force against objects in outer space.

5. At the 2008 Conference on Disarmament, the Governments of the Russian Federation and the People's Republic of China officially presented a draft proposal for a treaty on banning outer space weapons. The draft proposal, which is gaining support from a number of countries, bans not only the development of outer space weapons but also the use of force against satellites and other space objects. In Cuba's view, the proposed treaty is a concrete measure that will help to maintain international peace and security in activities relating to outer space — activities which cannot be conducted without the support of the international community.

6. Regrettably, a significant number of the objects currently launched in outer space are not designed to solve any of the important challenges confronting mankind, let alone contribute to development. On the contrary, they were launched for military or espionage purposes and will ultimately increase the amount of space debris, the mitigation of which has become a major challenge.

7. In 2008, there was another incident where an uncontrollable space object had to be destroyed as it re-entered the Earth's atmosphere. The object, which was owned and destroyed by the Government of the United States, carried 453 kilograms of hydrazine.¹ Cuba shares the concern of other States that the incident was a pretext to test anti-satellite systems or other weapons against space objects.

8. The international community is also concerned about the use of nuclear energy sources in outer space. Although only a few highly developed countries are currently exploring this field, it will eventually have an impact on all countries. Cuba considers that the use of nuclear energy sources should be restricted to the extent possible, until there is a clearly defined security framework and more concrete agreements have been initiated. Even in cases of limited use, the State in question should provide other States with comprehensive, transparent information on its activities, including the measures taken to ensure safe use.

9. Cuba remains convinced that, at present, there is no reason to consider using nuclear energy sources in Earth orbit, where the risks are considerably higher. Other efficient and much safer energy sources are available.

10. At the Fourteenth Summit Conference of Heads of State or Government of Non-Aligned Countries, political leaders expressed their concern about the adverse consequences of the development and deployment of antiballistic-missile defence systems and the quest for advanced military technology capable of deployment in outer space, which had the potential to unleash an arms race and the subsequent development of advanced missile systems together with an increase in the number of nuclear weapons.

11. Cuba considers that General Assembly resolution 62/43 contributes significantly to the aforementioned efforts to prevent an arms race in outer space.

12. Although transparency and confidence-building are not a substitute for arms control and disarmament measures or a prerequisite for the application of such measures, they nevertheless can facilitate the achievement of disarmament commitments and measures for their verification. Confidence-building requires goodwill on the part of States, which must themselves decide if they will embark on confidence-building, what concrete measures they will adopt and how they will put them into practice.

13. The formulation of recommendations on possible confidence-building measures would in itself be conducive to a better understanding of States' intentions and the current and future situation in outer space. In this sense, the joint work on the preparation of transparency and confidence-building measures would itself promote mutual trust.

14. Transparency and confidence-building measures in outer space activities could include:

¹ Hydrazine, which is often used to fuel spacecraft, is highly toxic and harmful to both humans and the environment.

- The convening of an international conference to analyse strict compliance with existing agreements on the peaceful uses of outer space;
- Review of the current legal regime regulating outer space activities in the light of technological advances, which has been continually blocked by certain States on the Legal Subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space;
- The adoption of multilateral agreements for the exchange of information on the use of outer space;
- The development of international cooperation mechanisms which guarantee to all countries equal access to the benefits of the utilization of outer space for peaceful purposes;
- Exchange of information on the major trends of the space policies of States, the principal programmes dealing with outer space research and utilization and the orbital parameters of space objects;
- Extending invitations to observers to attend the launching of space objects on a voluntary basis;
- Demonstration of space and rocket technologies;
- Issuing notifications about scheduled launchings of spacecraft, scheduled space manoeuvres that can result in dangerous proximity to spacecraft of other States, and the re-entry of guided spacecraft from orbit into the atmosphere;
- Consultations to clarify the information provided on outer space research and utilization programmes, on ambiguous situations and on other matters which are cause for concern; and to discuss the application of transparency and confidence-building measures agreed on in space activities.

15. Transparency and confidence-building measures can play an important part in the drafting, adoption and implementation of a new treaty banning the deployment of weapons in outer space and the use or threat of use of force against spatial objects. They would also help to create conditions conducive to the conclusion of a new agreement. The preparation of recommendations on possible transparency and confidence-building measures in outer space constitutes a relatively simple first step towards strengthening security.

France (on behalf of the European Union)

[Original: French]
[15 September 2008]

Proposals by the European Union on international transparency and confidence-building measures in outer space activities in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space

Introductory note

1. Activities in outer space are assuming increasing importance in the economic and industrial development of nations, as well as in their security. The European Union is committed to ensuring that peaceful activities for the benefit of all may be undertaken in the space environment.

2. The European Union fully shares the goals set forth in General Assembly resolution 62/43, and is of the view that creating a climate of peace and security is essential for pursuing the exploration and peaceful use of outer space as well as for international cooperation and the prevention of an arms race in outer space. As it has previously made clear, the European Union considers that pragmatic and concrete transparency and confidence-building measures in outer space activities acceptable to the greatest number of countries will yield substantial dividends for the security of such activities and will contribute to the achievement of the above-mentioned goals.

3. The European Union attaches great importance to the relevant existing treaties on outer space activities and sees them as a foundation upon which to build. The 1967 Outer Space Treaty, the 1968 Agreement on the Rescue of Astronauts, the 1972 Convention on International Liability for Damage Caused by Space Objects, the 1975 Convention on Registration of Objects Launched into Outer Space, the Hague Code of Conduct, and the Comprehensive Nuclear-Test-Ban Treaty, together with the Principles Relevant to the Use of Nuclear Power Sources in Outer Space, already provide a range of transparency and confidence-building measures in outer space activities.

4. The European Union voted in favour of General Assembly resolution 62/43, as it had for resolution 61/75, to which it provided a reply on 18 September 2007 (see document A/62/114/Add.1). The broad support garnered by resolution 62/43 confirmed the importance of establishing a regime encompassing transparency and confidence-building measures based, inter alia, on the following principles:

- Freedom for all to use outer space for peaceful purposes;
- Preservation of the security and integrity of space objects in orbit; and
- Due consideration for the legitimate security and defence interests of States.

5. The European Union recognizes the work initiated by the Chairman of the Committee on the Peaceful Uses of Outer Space, Gerard Brachet, aimed at guaranteeing the long-term viability of outer space activities. The European Union supports this initiative. Member States participating in outer space activities attended the meeting of an informal working group organized by France on 7 and 8 February 2008. The continued involvement of numerous countries as well as commercial operators and relevant international organizations

reflects the interest in and importance that States and others involved in space activities attach to the search for concrete measures to strengthen the security of outer space activities. The positive outcome of that meeting also showed that international cooperation based on the exchange of information and data is one of the best ways of attaining that goal. The European Union member States concerned are ready to take part in the work of this informal group in order to contribute to the adoption of specific legal provisions and best transparency and confidence-building practices. This initiative is fully consistent with and complementary to the European Union plan for a code of conduct on space activities as envisaged in the joint European Union reply to resolution 61/75.

Towards a code of conduct on space activities

6. Following the joint reply to resolution 61/75, in which the European Union expressed its desire to propose a code of conduct on space objects and space activities that would be consistent with the provisions of that resolution, the 27 member States of the European Union developed, at the expert level, a draft code of conduct on space activities.

7. The draft code seeks to establish the fundamental rules for States conducting space activities and is aimed at reducing the risk of collision and creation of space debris, as well as at strengthening mutual understanding among nations and others involved in space activities. It elaborates on the main principles and general goals expressed by the European Union in its joint reply, including:

- Progress towards adherence to and implementation of relevant regimes governing activities in space;
- Development of a best practices guide for strengthening the security of operations in space;
- Measures to strengthen understanding and confidence-building among nations and others involved in space activities and to organize communications among those involved in space activities with a view to preventing accidents and collisions between space objects; and
- Emphasis on the voluntary nature of such a code.

8. In order for such a code of conduct to have substantive scope, strengthen the security of space activities and create a climate of confidence that could help prevent an arms race in outer space, it must be acceptable to and observed by the greatest number of countries. The European Union therefore wishes to propose this draft code as its own contribution to the elaboration of a code of conduct on space activities that allows safe access to space for all, and is willing to engage in consultations with spacefaring nations with a view to producing a text that is acceptable to the greatest number of countries and to presenting it at the relevant international forums on space activities.

9. At the end of this process, which the European Union proposes to initiate shortly, we hope to complete the elaboration of a code of conduct that is open for accession by all States on a voluntary basis.

Qatar

[Original: English]
[17 June 2008]

The State of Qatar supports the prevention of the armament of outer space and the prevention of an arms race in outer space. In this regard, the State of Qatar is of the view that it is beneficial to convene a meeting at the expert level to establish a credible and reliable verification mechanism. At the same time, countries that use outer space must submit, subject to verification, reports with details regarding what they control in outer space, given the existence of a convention, which entered into force in 1967, to make outer space, including orbits around the Earth, the Moon and other celestial bodies, free of weapons of mass destruction. The Convention banned tests of weapons of any kind, military manoeuvres and the construction of military bases and facilities in outer space.

Ukraine

[Original: Russian]
[3 June 2008]

1. Ukraine believes that States should strictly comply with the provisions of international agreements to which they are parties, namely:

- The basic United Nations treaties on outer space (particularly taking account of the provisions of 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, of 27 January 1967; and article IV of the Convention on Registration of Objects Launched into Outer Space, of 14 January 1975);
- The Comprehensive Nuclear-Test-Ban Treaty, of 24 September 1996;
- The Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, of 5 August 1963.

2. Ukraine welcomes and supports the work of the multilateral non-proliferation regimes (the Missile Technology Control Regime, Nuclear Suppliers Group, the Zangger Committee, the Australia Group, and the Wassenaar Arrangement) and considers that the member States of these regimes must adhere to the provisions of their governing instruments in order to ensure transparency and increase confidence.

3. Ukraine proposes that the information from the annual declarations providing an outline of the policies of the States subscribing to the Hague Code of Conduct with respect to ballistic missile programmes and space launch vehicle programmes be used in order to draw up an annual generalized report to the Secretary-General.

V. Replies received from Governments in response to resolution 61/75

Austria

[Original: English]
[6 July 2007]

1. Austria believes that increased transparency and confidence are key prerequisites for the promotion of international cooperation and the prevention of an arms race in outer space.

2. Austria fully subscribes to the European Union's statement on the prevention of an arms race in outer space, which was delivered in the Conference on Disarmament on 13 February 2007. That statement suggested, among other elements, the establishment of "rules of behaviour" or "rules of the road" as possible confidence-building measures. Other elements might include the avoidance of collisions or interference and minimum distances between satellites placed in the same orbit. Avoidance of collisions and of dangerous manoeuvres as well as debris mitigation are other issues that might warrant further evaluation and discussion.

3. Additional measures could indicate pre-notification processes and pre-launch notifications.

4. In that regard, Austria attaches special importance to the Hague Code of Conduct against Ballistic Missile Proliferation and views its strengthening and universalization as an important step.

Bangladesh

[Original: English]
[30 June 2007]

1. Outer space is the common heritage of humankind, and transparency and confidence-building measures in this field can play a positive role in the peaceful uses of outer space and in regulating outer space activities. The scientific and technological capabilities of a number of countries have reached a level that enables them to implement military programmes in outer space. However, today's space activities confirm the importance of adapting a careful and responsible approach to space exploration. Failing to do so would not only intensify military rivalries but could also have unpredictable consequences for the world and for humanity. Bangladesh believes, therefore, that the following measures could help to promote transparency and build confidence among Member States in the area of outer space activities:

(a) The United Nations should establish a coordination committee on outer space activities. Such a committee could also have subcommittees at the regional or international levels. The committee should:

- (i) Monitor the implementation of agreements in the field of outer space activities;
- (ii) Determine which types of outer space activities are permissible and justified in the context of ensuring global security;

- (iii) Ensure that the use of outer space is in conformity with international law and in the interests of maintaining global peace and security;
- (iv) Monitor the outer space activities of Member States and ensure the safe disposal of expired objects;
- (v) Provide for verification measures in connection with outer space activities;
- (vi) Require Member States launching any outer space activities/programmes to notify it;
- (vii) Report to the General Assembly in case of any violation of international law or agreements on outer space activities;

(b) Member States not involved in outer space activities should have security assurances and may be allowed to derive benefits from peaceful outer space activities and existing peaceful outer space programmes;

(c) The General Assembly should publish two reports every three months: one containing a record of the space programmes undertaken by various Member States during the previous three-month period and the other describing the space programmes or activities projected to take place in the next three months.

2. The Member States concerned should exercise greater caution and maintain greater transparency in the process of carrying out tests or experiments in outer space.

3. An arms race in outer space would pose a serious threat to international peace and security. The United Nations should therefore play a more effective role in curbing the arms race in outer space. Bangladesh is neither involved in the arms race nor has it any intention of weaponizing outer space. As such, Bangladesh fully supports the implementation of resolution 61/75.

Bolivia (Plurinational State of)

[Original: Spanish]
[26 June 2007]

Analysis

1. At previous sessions, items on mass destruction, especially nuclear disarmament and non-proliferation, were to a large extent the most important items relating to this type of convention.

2. Of the 54 draft resolutions and draft decisions adopted, 17 dealt with nuclear issues. The statements made by delegations focused on issues connected with nuclear non-proliferation and small arms.

3. The withdrawal of draft resolution A/C.1/61/L.23 demonstrates the confusion surrounding a treaty banning the production of fissile material.

4. Where other weapons of mass destruction are concerned, the measures for the implementation of the Convention on chemical weapons are widely supported.

5. Regional conventional disarmament has reached a new stage which requires the adoption of urgent and decisive measures, especially with regard to the problem of small arms and light weapons.

6. As a Member State, Bolivia has participated in various United Nations events and meetings where new measures in the search for agreements to prevent an arms race in outer space were discussed.

7. As regards outer space transparency and confidence-building measures, Bolivia, even though it has no weapons legislation, continues its support and affirmative voting in the various United Nations debates, thereby demonstrating its goodwill towards the maintenance of international peace and security.

Conclusions

8. As a State Member of the United Nations, Bolivia needs to have weapons legislation in support of disarmament activities and the maintenance of peace and in compliance with international agreements.

9. The National Technical Department is unable to comment further owing to a lack of background documents and information with which to back up its opinion.

China

[Original: Chinese]
[25 April 2007]

1. China supports resolution 61/75, entitled “Transparency and confidence-building measures in outer space activities”, adopted by the General Assembly at its sixty-first session.

2. China has consistently opposed the weaponization of and an arms race in outer space. We are of the view that the existing legal framework related to outer space is not effective enough to prevent the weaponization of and an arms race in outer space. The best way to prevent the weaponization of and an arms race in outer space is to conclude a new international legal instrument through negotiation. In recent years, China, together with the Russian Federation and many other countries, has been actively promoting in the Conference on Disarmament the negotiation and the conclusion of an international legal instrument on preventing the weaponization of and an arms race in outer space, and has made detailed proposals in this regard. These efforts have enjoyed a favourable response from many countries.

3. China is of the view that the appropriate transparency and confidence-building measures in outer space are conducive to reducing possible misunderstandings among countries with regard to their respective activities in outer space, preventing tension, improving mutual trust, and facilitating international cooperation on peaceful uses of outer space.

4. Although transparency and confidence-building measures, as intermediate measures, can be complementary to a negotiated international legal instrument on preventing the weaponization of and an arms race in outer space, they cannot replace the latter. The commitments by all countries not to place weapons in outer space and not to use or threaten to use force against outer space objects of other countries are the most crucial and practical

transparency and confidence-building measures in outer space. Detailed ideas and further proposals in this regard are contained in the joint working paper submitted to the Conference on Disarmament by China and the Russian Federation as contained in document CD/1778.

5. China will continue, together with other members of the Conference on Disarmament, to actively promote prevention of the weaponization of and an arms race in outer space, and to commit itself to maintaining peace and security in outer space.

Cuba

[Original: Spanish]
[16 May 2007]

1. The General Assembly of the United Nations, through its resolution 61/75, entitled “Transparency and confidence-building measures in outer space activities”, invited all States Members of the United Nations to submit to the Secretary-General concrete proposals on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space.

2. In response to this invitation, the Government of Cuba is pleased to transmit the following considerations.

3. Beginning in the 1960s, the international community adopted a series of legal instruments on outer space including the Partial Test Ban Treaty (1963), the Treaty on Peaceful Uses of Outer Space (1967) and the Agreement on Celestial Bodies (1979). These instruments have played a constructive part in the promotion of the peaceful uses of outer space and the regulation of outer space activities. They have also been of significance in relation to the ban on the deployment of weapons of mass destruction and certain military activities in outer space.

4. The prevention of an arms race in outer space is a universal goal; the majority of countries recognize that the arms race represents a grave threat to international peace and security. Yet, current developments provide lamentable proof that the existing treaties and agreements have failed to eliminate the dangers of the militarization of outer space because the situation clearly indicates that they are insufficient to prevent the deployment of weapons in the cosmos.

5. The existing multilateral machinery dealing with disarmament and arms control has the important responsibility of prevailing on the will of the international community in this regard. Cuba supports the efforts under way in the General Assembly and the Conference on Disarmament, especially the negotiation in the Conference of an international legal instrument on banning the deployment of weapons in outer space, and to this end it supports the establishment of a special or ad hoc committee to initiate negotiations.

6. Cuba shares the view both of countries that consider that the need to negotiate a new legal instrument arises because the existing treaties do not effectively prevent the testing, deployment and use of weapons, with the exception of weapons of mass destruction in outer space, especially in orbit around the Earth, on celestial bodies other than the Moon and in outer space, and of countries that maintain that none of these legal instruments is relevant to the question of the use or threat of force against objects in outer space.

7. In September 2006, Cuba had the honour of presiding over the Fourteenth Summit Conference of Heads of State or Government of Non-Aligned Countries, held in Havana, at which political leaders expressed their concern about the adverse consequences of the development and deployment of antiballistic-missile defence systems and the quest for advanced military technology capable of deployment in outer space, which had the potential to unleash an arms race and the subsequent development of advanced missile systems together with an increase in the number of nuclear weapons.

8. General Assembly resolution 61/75 is a very important input in those efforts to prevent an arms race in outer space; accordingly, Cuba wishes to contribute the following ideas.

9. Although transparency and confidence-building are not a substitute for arms control and disarmament measures or a prerequisite for the application of such measures, they nevertheless can facilitate the achievement of disarmament commitments and measures for their verification. Confidence-building requires goodwill on the part of States, which must themselves decide if they will embark on confidence-building, what concrete measures they will adopt and how they will put them into practice.

10. The joint formulation of recommendations on possible confidence-building measures would in itself be conducive to a better understanding of States' intentions and the current and future situation in outer space. In this sense, the joint work on the preparation of transparency and confidence-building measures would of itself promote mutual trust.

11. Transparency and confidence-building measures in outer space activities could include:

- The convening of an international conference to analyse strict compliance with existing agreements on the peaceful uses of outer space;
- Review of the current legal regime regulating outer space activities in the light of technological advances;
- The adoption of multilateral agreements for the exchange of information on the use of outer space;
- The development of international cooperation mechanisms which guarantee to all countries equal access to the benefits of the utilization of outer space for peaceful purposes;
- Exchange of information on the major trends of the space policies of States, the principal programmes dealing with outer space research and utilization and the orbital parameters of space objects;
- Extending invitations to observers to attend the launching of space objects on a voluntary basis;
- Demonstration of space and rocket technologies;
- Issuing notifications about scheduled launchings of spacecraft, scheduled space manoeuvres that can result in dangerous proximity to spacecraft of other States, and the re-entry of guided spacecraft from orbit into the atmosphere;
- Consultations to clarify the information provided on outer space research and utilization programmes, on ambiguous situations and on other matters which are

cause for concern; and to discuss the application of transparency and confidence-building measures agreed on in space activities.

12. Transparency and confidence-building measures can play an important part in the drafting, adoption and implementation of a new treaty banning the deployment of weapons in outer space and the use or threat of use of force against spatial objects. They would also help to create conditions conducive to the conclusion of a new agreement. The preparation of recommendations on possible transparency and confidence-building measures in outer space constitutes a relatively simple first step towards strengthening security.

Kenya

[Original: English]
[12 September 2007]

Committee on the Peaceful Uses of Outer Space

1. Kenya is an active member of the United Nations and is also a member of the Committee on the Peaceful Uses of Outer Space. The Committee is the primary forum for the development of laws and principles, codified in treaties and resolutions, governing outer space.

2. Kenya has also been a member of the International Atomic Energy Agency (IAEA) since 1965. The Agency serves as the world's foremost international governmental forum for scientific and technical cooperation in the peaceful use of nuclear science and technology.

Status of ratification of international agreements relating to activities in outer space

3. Among the five major conventions, Kenya has so far ratified and acceded to the following international United Nations agreements relating to activities in outer space:

(a) Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies (Outer Space Treaty) (ratified 1967);

(b) Convention on International Liability for Damage Caused by Space Objects (ratified 1972);

(c) Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (accession 1984).

4. Other agreements that Kenya has ratified, acceded to and signed include the following:

(a) Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water (accession 1965);

(b) Agreement Relating to the International Telecommunications Satellite Organization (accession 1971 and definite signature 1977);

(c) Convention on the International Mobile Satellite Organization (accession 1976);

(d) Constitution and Convention of the International Telecommunication Union (accession 1992, ratified 1978 and 1985);

(e) Treaty on the Non-Proliferation of Nuclear Weapons (accession 1970).

5. Efforts are being made to ensure that Kenya ratifies all treaties and agreements relating to activities in outer space and incorporates their provisions into its domestic legislation.

Confidence-building measures

6. As a non-nuclear-weapon State, Kenya is committed to resolution 61/75. It seeks assurances against the use or threat of use of nuclear weapons and calls upon Member States to strengthen international peace and security.

Prevention of an arms race in outer space

7. Confidence-building measures are an important means of attaining the objective of the prevention of an arms race in outer space. Kenya, therefore, calls upon Member States to contribute actively to the achievement of the objective of the peaceful use of outer space and to refrain from actions contrary to that objective.

International outer space transparency

8. Kenya reaffirms the importance and urgency of preventing an arms race in outer space and the readiness of all Member States to contribute to that common objective, in conformity with the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies. Kenya assures Member States that its launching site will give preliminary notifications of Space Launch Vehicles launches and of their test flights.

Conclusions

9. The implementation of international outer space transparency and confidence-building measures would help to maintain international peace and security, promote international cooperation and prevent an arms race in outer space.

10. Those measures could also become a unifying factor for all Member States with respect to outer space and generate practical outputs that would promote a prudent and responsible approach to the exploration, exploitation and use of outer space for the benefit of humankind.

Libyan Arab Jamahiriya

[Original: Arabic]
[11 May 2007]

Concrete proposals of the Great Jamahiriya concerning General Assembly resolution 61/75, entitled "Transparency and confidence-building measures in outer space activities"

1. The Libyan Arab Jamahiriya accords extreme importance to the efforts of the international community to prevent the weaponization of outer space and enhance international cooperation aimed at its use for peaceful purposes.

2. For that reason, the Libyan Arab Jamahiriya made every effort to join the Committee on the Peaceful Uses of Outer Space in order to be able to participate, in a manner commensurate with its situation as a developing country, in international efforts, notwithstanding differences in technical and economic capabilities, in support of the goals and objectives stipulated in United Nations treaties and the related principles concerning outer space.

3. The Libyan Arab Jamahiriya commends all the resolutions adopted by the United Nations General Assembly that stress the need for increased transparency and the importance of confidence-building measures conducive to ensuring the attainment of the objective of the prevention of an arms race in outer space and notes the constructive nature of the debate being held on this subject in the relevant forums.

4. The Libyan Arab Jamahiriya is of the opinion that adhering in word and in deed to the provisions of the United Nations treaties, their principles pertaining to outer space and the principles governing related activities will be among the most important confidence-building factors that will motivate all parties, in particular States that possess advanced technologies in the area of space capabilities, to adopt an approach characterized by greater transparency in their practices connected with space activities and their use of available technologies.

5. The Libyan Arab Jamahiriya reaffirms the importance of increased international awareness in defining outer space as the patrimony of all humanity and making known the potential destructive consequences, in the event of an arms race in outer space, and the armed struggles to which it might give rise.

Mexico

[Original: Spanish]
[22 May 2007]

1. Mexico supports the efforts of the international community to prevent an arms race in outer space and to promote international cooperation for the peaceful uses of outer space. In the Conference on Disarmament, it has supported proposals on preventing an arms race in outer space which recognize the need to preserve outer space as the common heritage of humanity in order to promote its development and prevent its destruction.

2. It has also supported the adoption of General Assembly resolutions on the subject and reiterated the importance of support by the international community for the principle of

peaceful uses of outer space through transparency and confidence-building, particularly among States with advanced technologies in this field.

3. Although the 1993 study on the application of confidence-building measures in outer space provided a broad panorama of such measures, emphasizing the importance of security, openness and predictability in the definition of this type of measure, Mexico would emphasize the advisability of conducting a new evaluation with specific recommendations which take into consideration changes in the international context and technological advances and generate elements conducive to the adoption of effective action promoting a cooperative climate of confidence.

4. Mexico also considers it desirable to prevail on States with space capabilities to declare that they will not be the first to deploy a weapon of any kind in outer space. This will no doubt lead to the adoption of commitments which will prevent an arms race in outer space.

5. Mexico further considers it fundamental to include a robust multilateral verification regime in the negotiation and adoption of an international instrument on the prevention of an arms race in outer space, thereby building confidence among States and helping to ensure full implementation of the instrument. Although the absence of internationally accepted definitions in relation to outer space could stand in the way of negotiations on a treaty on the prevention of an arms race in outer space, it is important to remember that, within the framework of the Conference on Disarmament in 1988, some delegations suggested that it would be possible, with the help of experts, to formulate a definition that not only described space weapons but also enumerated their components.

Portugal (on behalf of the European Union)

[Original: English]
[18 September 2007]

Concrete proposals by the European Union on international outer space transparency and confidence-building measures in the interest of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space

1. Introductory note

1. The prevention of an arms race in outer space is important for the strengthening of strategic stability and for the promotion of international cooperation in ensuring freedom of exploration and use of outer space for peaceful purposes for all States. The European Union continues to attach importance to this issue and remains firmly committed to the development and implementation of transparency and confidence-building measures as a means of strengthening security in the peaceful use of outer space. On that basis, the European Union voted unanimously in favour of resolution 61/75 on transparency and confidence-building measures in outer space activities. The broad support garnered by the resolution is a clear indication of the need to develop a regime encompassing such measures based, *inter alia*, on the following principles:

- (a) Freedom for all to use outer space for peaceful purposes;
- (b) Preservation of the security and integrity of space objects in orbit; and

(c) Due consideration for the legitimate security and defence interests of States.

2. In response to the request made in resolution 61/75 for concrete proposals, the European Union would like to submit the following in the interests of maintaining international peace and security and promoting international cooperation and the prevention of an arms race in outer space, pursuant to resolution 61/58.

3. The European Union attaches great importance to the relevant existing agreements and sees them as the basis on which we should build. The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, the 1968 Agreement on the Rescue of Astronauts, the 1972 Convention on International Liability for Damage Caused by Space Objects, the 1975 Convention on Registration of Objects Launched into Outer Space, the Comprehensive Nuclear-Test-Ban Treaty, the Hague Code of Conduct against Ballistic Missile Proliferation and the Principles Relevant to the Use of Nuclear Power Sources in Outer Space already provide for a variety of transparency and confidence-building measures in the field of outer space activities. On the basis of those agreements, certain spacefaring nations already voluntarily provide advance notice if there is reason to believe that their activities or experiments may interfere with and thereby harm the operation of another nation's space objects. In that connection, they share surveillance data to the maximum extent possible in order to improve safety. They also provide accurate and timely launch notification and registration. Lastly, they consult with others before taking any action that could prove harmful by interfering with space operations or space objects.

4. Those agreements go some way towards providing transparency and building confidence between space-capable and non-space-capable nations. However, not all spacefaring nations have adopted these transparency and confidence-building measures. The universalization and full implementation of all relevant agreements and treaties is therefore of the utmost importance.

5. The European Union also recognizes the relevant work carried out by the Committee on the Peaceful Uses of Outer Space. The recent agreement reached in the Committee on debris mitigation guidelines, based on the work of the Inter-Agency Space Debris Coordination Committee and on the 1999 Rex report on space debris (A/AC.105/720), was a useful development. The proposed Committee agenda item on the preservation of the space environment, which will include "rules of the road", for outer space, could also be an important step towards establishing best practices in space. The outcome of this work should be used as a basis for further transparency and confidence-building measures.

6. In the European context, a Code of Conduct for Space Debris Mitigation was concluded in 2004 and signed by the European Space Agency (ESA) and the other main European space agencies. That Code of Conduct is aimed at reducing the generation of debris in outer space which can damage space objects. The proposals contained in that document could be used to expand the Committee's debris-mitigation guidelines so as to enable wider agreement on them.

7. Furthermore, during the current year, the European Union adopted the European Space Policy, aimed at fostering better coordination among the European Union, ESA and member States with respect to their activities and programmes, and at organizing their respective roles relating to space both in the civil and in the security and defence areas. Such improved coordination will make the activities of the European Union more visible and understandable to other nations and therefore lead to a better understanding of space policies.

The European Union encourages other nations and regional groups to undertake similar activities.

8. The European Union would like to propose, in addition to existing arrangements, a comprehensive code of conduct on space objects and space activities. Such a code of conduct would respond to the provisions of resolution 61/75 and contribute to filling the gaps that are developing in the existing framework as we expand and diversify our use of outer space, thereby creating greater coherence among existing regulations and practices. Thus it would be possible, through a single instrument, to strengthen existing agreements and codify new best practices.

2. General principles governing a code of conduct on space objects and space activities

9. The European Union believes that the general principles of such a comprehensive code of conduct could be, inter alia:

(a) A commitment to make progress towards adherence to and full implementation of the relevant existing treaties, codes of conduct and guidelines regarding the peaceful use of space;

(b) A commitment to prevent space from becoming an area of conflict;

(c) Recognition of the fact that satellites and the use of space in general are essential to the safeguarding of national security and strategic stability; and

(d) A commitment to resolve, by peaceful means and through the formulation of concrete proposals, any conflict created by actions in space, taking account of States' inherent right to self-defence under Article 51 of the Charter of the United Nations.

3. Scope of a code of conduct on space objects and space activities

10. The key activities to be covered under such a code of conduct could include, inter alia, the avoidance of collisions and deliberate explosions, the development of safer traffic-management practices, the provision of assurances through improved information exchanges, transparency and notification measures, and the adoption of more stringent space debris mitigation measures.

11. In the implementation of such a comprehensive code of conduct, States could abide by the following best practices:

(a) Refrain from any manoeuvre or action that could cause, directly or indirectly, damage to or the destruction of satellites or space objects, and refrain from activities in space that create space debris;

(b) Avoid accidents and collisions with other objects in space; create special areas of caution in space and around satellites, designated by their controlling States and deserving of specific consideration by others;

(c) Put in place consultation mechanisms for resolving expeditiously any incident that has given or might give rise to concern;

(d) Provide information, on an annual basis, on the number and type of satellites launched during the preceding year;

(e) Maintain a register in which the information furnished by notification is recorded so as to avoid duplication;

(f) Provide appropriate prior notification to the launching State of a satellite if another State plans to approach that satellite;

(g) Ensure that comprehensive information is provided by each launching State on its space assets and that it adheres to and fully implements the 1975 Registration Convention, giving information on eccentricity, inclination and orientation;

(h) Consider possible additional cooperative measures aimed at enhancing compliance.

12. The European Union recommends that the technical aspects of the proposals be addressed in further detail by the Committee where relevant and within the mandate of the Scientific and Technical Subcommittee under the agenda item on the preservation of the space environment, and in due time submitted to the Committee on Disarmament for consideration as transparency and confidence-building measures in the context of the prevention of an arms race in outer space. Consideration of the proposals by the Committee and the Committee on Disarmament, in accordance with their respective mandates, must be properly coordinated in order to prevent duplication.

4. Participation in a code of conduct on space objects and space activities

13. Like the European Code of Conduct for Space Debris Mitigation and the Hague Code of Conduct against Ballistic Missiles Proliferation, a code of conduct for outer space would be voluntary and open to all States, and would lay down the basic rules to be observed by spacefaring nations. Given the dual-use character of many space objects, the code should apply to all such objects.

14. The scope of such a code of conduct would obviously depend on the willingness to participate of all States that carry out activities in outer space.

Russian Federation

[Original: Russian]

[11 May 2007]

1. The Russian Federation considers that confidence-building measures help to ensure peace, security and stability at all levels, to eliminate possible threats and overcome challenges to peace and security, and to prevent military confrontation, while facilitating the management of situations that could lead to international tension. They make a significant contribution to improving inter-State relations and the development of dialogue and cooperation between countries.

2. Transparency and confidence-building measures in outer space activities, in view of the growing dependence of all countries in the world on the outcome of such activities, are an important component of confidence-building measures, which also include measures on land, at sea and in the air, and are intended to achieve similar aims. They are recognized as helping to prevent the emergence of outer space as a new sphere of confrontation, to avoid a new nuclear arms race and to establish conditions for the predictability of the strategic situation in outer space, the security of outer space activities and the protection of space assets. These measures may become a significant field for broad multilateral cooperation.

3. A number of transparency and confidence-building measures in outer space activities are already included in international agreements on outer space: the 1967 Outer Space Treaty, the 1968 Astronauts Rescue Agreement, the 1972 Liability Convention and the 1975 Registration Convention. Some of these measures are applied by States as a unilateral initiative and are political obligations.

4. Transparency and confidence-building measures are not, however, all embracing in terms either of their coverage of the various types of outer space activity or of the participation of States in their implementation. Joint work is needed on additional measures in this area that are appropriate to the current stage of development of humanity.

5. In this work it would be useful to consider the results of the study on the application of confidence-building measures in outer space that was conducted by a group of governmental experts over the period 1990-1993 (it is included in the report by the Secretary-General contained in document A/48/305) and also other related proposals introduced by States, including some proposals in connection with General Assembly resolution 61/75.

6. In order to conduct a more in-depth study of issues relating to transparency and confidence-building measures and the preparation of recommendations for further work in this area, it would be useful to establish a group of governmental experts with the appropriate mandate.

7. The proposals of the Russian Federation in relation to possible transparency and confidence-building measures which are both relevant and forward-looking are set out below. This list is not exhaustive in nature but could, in our opinion, serve as a basis for further discussion.

8. Possible transparency and confidence-building measures fall into several categories:

- Measures aimed at enhancing the transparency of outer space programmes;
- Measures aimed at expanding the information available on outer space objects in orbit;
- Measures related to the rules of conduct for outer space activities.

9. Such measures may be carried out in various ways, including exchange of information, familiarization visits, notifications, consultations and thematic workshops:

(a) Exchange of information on:

- (i) The main directions of States' outer space policy;
- (ii) Major outer space research and use programmes;
- (iii) Orbital parameters of outer space objects;

(b) Familiarization visits:

- (i) Expert visits, including visits to space launch sites, flight command and control centres and other facilities of outer space infrastructure;
- (ii) Invitation of observers to launches of spacecraft;
- (iii) Demonstrations of rocket and space technologies;

(c) Notification of:

- (i) Planned spacecraft launches;
 - (ii) Scheduled spacecraft manoeuvres which could result in dangerous proximity to spacecraft of other States;
 - (iii) The beginning of descent from orbit of unguided space objects and the predicted impact areas on Earth;
 - (iv) The return from orbit into the atmosphere of a guided spacecraft;
 - (v) The return of a spacecraft with a nuclear source of power on board, in the case of malfunction and danger of radioactive materials descending to Earth;
- (d) Consultations:
- (i) To clarify the information provided on outer space research and use programmes;
 - (ii) On ambiguous situations, as well as on other issues of concern;
 - (iii) To discuss the implementation of agreed transparency and confidence-building measures in outer space activities;
- (e) Thematic workshops on various outer space research and use issues, organized on a bilateral or multilateral basis, with the participation of scientists, diplomats, military and technical experts.

Ukraine

[Original: Russian]
[14 May 2007]

1. In the view of Ukraine, States must unswervingly comply with the provisions of the international agreements to which they are parties, namely:
 - the basic United Nations treaties on outer space (particularly taking account of the provisions of 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, of 27 January 1967; and article IV of the Convention on Registration of Objects Launched into Outer Space, of 14 January 1975);
 - the Comprehensive Nuclear-Test-Ban Treaty, of 24 September 1996;
 - the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, of 5 August 1963.
2. Ukraine welcomes and supports the work of the multilateral non-proliferation regimes (the Missile Technology Control Regime, Nuclear Suppliers Group, the Zangger Committee, the Australia Group, and the Wassenaar Arrangement) and considers that the member States of these regimes must adhere to the provisions of their governing instruments in order to ensure transparency and increase confidence.
3. Ukraine proposes that the information from the annual declarations providing an outline of the policies of the States subscribing to the Hague Code of Conduct with respect to ballistic missile programmes and space launch vehicle programmes be used in order to draw up an annual generalized report to the Secretary-General.

III. Expert papers

A. Submission by the Government of Australia on building confidence through transparency on international law applicable to international security issues in outer space*

The most fundamental source of confidence in any system of order is a common, clear understanding of the legal framework that applies. In the international system, international law serves to give states a high degree of confidence in the manner in which other states should behave, and the more transparent the views of States are on how international law applies to any given situation, the more likely states are to behave in a consistent and predictable manner.

The 1967 *Outer Space Treaty* states clearly in Article III that international law applies in space. While most States would agree that relevant bodies of international law, including customary law, treaty law and the provisions of the Charter of the United Nations, apply equally in outer space, there is little agreement among States about which particular principles beyond the UN Charter and specific space treaties apply and in what way.

The attached discussion paper, prepared by Australia, seeks to identify some key principles of international law that may be applied to state behaviour with respect to the security and safety of space activities, particularly in relation to space debris. The paper does not claim to be definitive or exhaustive. It is intended as background to the work of the Group of Government Experts on transparency and confidence-building measures, and as “food for thought” to stimulate discussion and further study, and thereby facilitate transparency and build confidence, in this field.

This is important, to expressly counter any suggestion or assumption that outer space is a “wild west” frontier territory, regulated only by the five main space treaties that are, for the most part, silent on international security issues. As this paper demonstrates, there is in fact a considerable body of international law outside the major space treaties that is applicable to state behaviour in outer space and can contribute to predictability and confidence in relation to outer space.

The paper highlights the applicability of the law on the use of force, and international humanitarian law (or the law of armed conflict) to space, and suggests that certain obligations and principles of international telecommunications law and international environmental law could also be applied to the activities of States in outer space which may threaten the peace and security of other States.

The paper suggests that a series of similar obligations in a number of these bodies of law relating to constraints on States’ actions which would contaminate the environment and/or interfere with the activities of other States, could be applied to State actions in outer space, including the creation of long-lived space debris through the deliberate destruction of space objects.

Acknowledgement of and commitment to these obligations by States could be expected to generally discourage the development and use of kinetic counter-space weapons. Given the

* Paper submitted by the Government at the invitation of the Chairman of the Group of Governmental Experts during the Plenary Session of the Conference on Disarmament in August 2012.

general lack of agreement among States on the legal framework that applies to State activities in outer space, the paper suggests that the GGE include in its report:

(a) a reaffirmation of the applicability of international law to outer space, recognition of the contribution that working towards a common understanding of how international law applies to outer space can make to confidence-building and international security and

(b) a recommendation that States consider potentially applicable international law obligations and principles when planning their space activities.

International law applicable to international security issues in outer space

Introduction

States generally agree that international law applies to States' activities in outer space. However there is little agreement among States about how obligations and principles¹ of international law apply to security issues in outer space, and which obligations and principles apply beyond the provisions of the major treaties dealing specifically with outer space and the UN Charter. Australia's intention in submitting this paper to the Group of Governmental Experts (GGE) on Transparency and Confidence-building Measures (TCBMs) in Outer Space Activities is not to attempt to provide a definitive exposition of the international law applicable to space security, but to provide background to the GGE, and in the longer term, to stimulate discussion and facilitate transparency on this vital topic. The legal issues highlighted in this paper are still under discussion within the Australian government as they are elsewhere, and this analysis does not represent Australia's final position on them. Australia is open to and desirous of further dialogue on these matters. Australia would be pleased to see the GGE respond to this paper by recommending as a key TCBM that Member States affirm the applicability of international law, including the provisions of the UN Charter, to activities in outer space, recognise the contribution that a common understanding of how international law applies to outer space can make to confidence-building and international security, and recommend that States consider potentially applicable international law obligations and principles when planning their space activities.

Existing provisions on space security issues in key UN General Assembly resolutions, declarations of States and core treaties

There is general agreement among States that international law, including the provisions of the *UN Charter*, applies to the activities of States in outer space. This principle has been reiterated consistently in key UN General Assembly resolutions, declarations of States and core treaties relating to outer space.² It is codified in Article III of the 1967 *Outer Space Treaty*, which provides that States

¹ In this paper, the term "obligation" is used to refer to legally binding rules and the term "principle" is used to refer to non-legally binding standards.

² See RES 1721 (XVI) (20/12/61); RES 1962 (XVIII) (13/12/63), *The Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space*; RES 2222 (XXI) (19/12/66), annexing the *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (The Outer Space Treaty)*; RES 2345 (XXII) (19/12/67), annexing the *Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space (The Rescue Agreement)*; RES 2777 (XXVI) (29/11/71), annexing the *Convention on International Liability for Damage Caused by Space Objects (The Liability Convention)*; RES 3235 (XXIX) (12/11/74), annexing the *Convention on Registration of Objects Launched into Outer Space (The Registration Convention)*; RES 34/68 (05/12/79), annexing the *Agreement Governing the Activities of States on the*

shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security ...

The principle means that the applicable law in outer space includes not only the provisions of the *Outer Space Treaty* and the other major treaties dealing specifically with outer space, but also includes other rules of international law, whether such rules are of a customary, conventional or other nature.³

According to Article III of the 1967 *Outer Space Treaty*, the major imperative for declaring the applicability of international law to outer space is the maintenance of international peace and security. However, the existing body of space resolutions, declarations and treaties provide only a few provisions which deal specifically with the activities of States in outer space which may threaten the peace and security of other States, which could be summarised as follows:

- States' activities in outer space must be carried out in accordance with the UN Charter, including the provisions regarding the threat or use of force;⁴
- the threat or use of force on the moon and use of the moon for military installations or activities or to threaten or use force in relation to the earth, moon, spacecraft or objects and their personnel are prohibited;⁵
- the placement of weapons of mass destruction (WMD) in outer space or on the moon and their use on or in the moon is prohibited;⁶
- the testing of weapons on the Moon and other celestial bodies is prohibited;⁷ and

Moon and Other Celestial Bodies (The Moon Agreement); RES 36/97C (09/12/81); RES 37/92 (10/12/82), annexing the *Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting*; RES 38/70 (13/12/83); RES 41/64 (03/12/86); RES 40/87 (12/12/85); RES 41/53 (3/12/86); RES 41/65 (03/12/86), annexing the *Principles relating to remote sensing of the Earth from outer space*; RES 42/33 (30/11/87); RES 43/70 (07/12/88); RES 44/112 (15/12/89); RES 45/55 (04/12/90); RES 46/33 (06/12/91); RES 47/51 (09/12/92); RES 47/68 (14/12/92), annexing the *Principles Relevant to the Use of Nuclear Power Sources in Outer Space*; A/RES/48/74 (16/12/93); A/RES/49/74 (15/12/94); A/RES/50/69 (12/12/95); A/RES/51/44 (10/12/96); A/RES/51/122 (13/12/96), annexing the *Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries*; A/RES/52/37 (09/12/97); A/RES/53/76 (04/12/98); A/RES/54/53 (01/12/99); A/RES/55/32 (20/11/00); A/RES/56/23 (26/11/01); A/RES/57/57 (22/11/03); A/RES/58/36 (08/12/03); A/RES/59/65 (3/12/04); A/RES/59/115 (10/12/04); A/RES/60/54 (8/12/05); A/RES/61/58 (6/12/06); and A/RES/62/20 (5/12/07).

³ Sergio Marchisio, "Article IX", in Hobe, Schmidt-Tedd and Schrogl (eds.), *Cologne Commentary on Space Law, Volume 1, the Outer Space Treaty* (2009), p. 177 (para. 30).

⁴ See para. 4 of *The Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space* Article (annexed to RES 1962 (XVIII) (13/12/63)); Article III of the *Outer Space Treaty*; and the preambular language of the annual UN General Assembly resolutions on "Prevention of an arms race in outer space" between 1981 and 2007 (most recently, A/RES/62/20 (5/12/07), preambular paras. 3-4).

⁵ See paras. 3(2)-(4) of the *Moon Treaty*.

⁶ See Article IV of the *Outer Space Treaty*; Article 3(3) of the *Moon Treaty*; and the preambular language of the annual UN General Assembly resolutions on "Prevention of an arms race in outer space" between 1981 and 2007 (most recently, A/RES/62/20 (5/12/07), preambular paras. 3-4).

⁷ See Article IV of the *Outer Space Treaty*; Article 3(4) of the *Moon Treaty*; and the preambular language of the annual UN General Assembly resolutions on "Prevention of an arms race in outer space" between 1981 and 2007 (most recently, A/RES/62/20 (5/12/07), preambular para. 3).

- harmful contamination of outer space and celestial bodies must be avoided and States must conduct international consultations before proceeding with activities which might cause potentially harmful interference with the activities of others.⁸

How these principles would apply to specific space security scenarios remains a matter for discussion.

There are a number of additional obligations and principles of international law not explicitly stated or referred to in the existing body of space resolutions, declarations and treaties which may be applied to activities of States in outer space which might threaten the peace and security of other States. This paper seeks to highlight these additional obligations and principles.

The application of international law to outer space

International law governs the relations between territorially-defined sovereign States. Applying international law obligations and principles in the borderless outer space environment, where States are neither the sole actors, nor controllers of that “space”, requires careful consideration. Specifically, consideration of how foundational international law concepts of sovereignty and jurisdiction may apply in outer space is central to the application and interpretation of other existing bodies of international law to outer space, including the law on the use of force, international humanitarian law (or the law of armed conflict) and international environmental law, and should be the subject of further study.

Use of force and self-defence

Article III of the *Outer Space Treaty* confirms that the provisions of the *UN Charter* are applicable to States’ activities in outer space. This includes the provisions of the *UN Charter* relating to the use of force. The key use of force provisions are the prohibition on the threat or use of force against the territorial integrity or political independence of any State in Article 2(4)⁹ and Article 51 which preserves the inherent right of States to self-defence and provides an exception to the prohibition on the use of force in Article 2(4).¹⁰

The question then becomes what will constitute a threat or use of force against the territorial integrity or political independence of a State in outer space. An analogy may be drawn with the application of the law on the use of force to ships on the high seas, whereby a use of force against a ship may be considered to be a use of force against the State to which that ship is “flagged”.¹¹ It is arguable that, at least where the State of ownership and the State

⁸ See para. 6 of *The Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space* Article (annexed to RES 1962 (XVIII) (13/12/63)) and Article IX of the *Outer Space Treaty*.

⁹ *UN Charter* Article 2(4) provides: “All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations.”

¹⁰ *UN Charter* Article 51 provides: “Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations ...”

¹¹ It is widely acknowledged that customary international law permits the use of force in self-defence against attacks on a State’s warships or flagged merchant ships, but the extent to which this extends to third-State merchant ship flagged to the State is a matter of debate (A. V. Lowe, “Self-defence at sea” in W. E. Butler (ed.), *The Non-Use of Force in International Law* (1989), 189-193; R. R. Churchill and A. V. Lowe, *The law of the sea* (1999), 425). The International Court of Justice appears to allow that an attack on a vessel “flagged” to a particular State may be equated with an attack on that State in its Judgement in the *Oil Platforms Case* (Iran v. United States of America, 2003 ICJ 161, 191).

of registration of a space object are the same, a use of force against a space object may be considered a prohibited use of force against that State, which may in certain circumstances constitute an armed attack to which the State may lawfully respond in self-defence.¹² The question of what actions may constitute a use of force giving rise to such a response, and what actions may not, remains open to debate.

International humanitarian law (IHL), or the law of armed conflict (LOAC)

There is a strong argument that certain IHL principles are applicable to armed conflict in outer space. While the direct applicability of the core treaties of IHL to armed conflict in outer space remains a matter for debate,¹³ certain fundamental IHL obligations reflected in the 1977 *Additional Protocol I (API)* have attained the status of customary international law and are recognised as being applicable to armed conflict in any medium, including outer space. We consider it likely that these customary law obligations do not contain the same territorial limitations as those in the *Geneva Conventions* and their *Additional Protocols*. These rules include:

- the prohibition on targeting civilians and civilian objects (the principle of distinction);¹⁴
- the prohibition on causing excessive incidental harm to civilians and civilian objects (the principle of proportionality);¹⁵
- the permissibility of actions compliant with other IHL principles which are necessary to achieve military objectives (the principle of necessity);¹⁶
- the requirement that constant care (precautionary measures) be taken to spare the civilian population, civilians and civilian objects in the planning and conduct of attacks;¹⁷
- the prohibition on attacks not directed against a specific military objective or which employ a method or means of combat which cannot be limited (indiscriminate attacks);¹⁸ and
- the prohibition on using means and methods of warfare which cause superfluous injury or unnecessary suffering (the prohibition on causing unnecessary suffering).¹⁹

API also contains provisions prohibiting the use of means and methods of warfare which cause widespread, long-term and severe damage to the natural environment.²⁰ No definition of the “natural environment” is provided in *API*, but it might reasonably be argued that the outer

¹² While Article VIII of the *Outer Space Treaty* establishes that States shall retain jurisdiction and control over space objects registered to them, whether the fact of such jurisdiction and control is sufficient to establish that a use of force against such an object would amount to a use of force against the State of registration, where this is a different State to the State of ownership, would be open to debate, for similar reasons to those arising in the case of third-State merchant ships.

¹³ The provisions of the 1949 *Geneva Conventions* for the most part relate specifically to terrestrial concerns and would not appear applicable. Article 49(2) of *Additional Protocol I (API)* and Article 2 of *Additional Protocol II (APII)* specify that those Protocols apply to armed conflicts and attacks which take place in “territory”, and it is unsettled as a matter of international law whether attacks on space objects in the context of an armed conflict can be said to take place within a particular “territory”.

¹⁴ *API*, Articles 51 and 52.

¹⁵ *API*, Article 51(5)(b).

¹⁶ *API*, Article 52(2).

¹⁷ *API*, Article 57.

¹⁸ *API*, Article 51(4).

¹⁹ *API*, Article 35(2).

²⁰ *API*, Articles 35(3) and 55.

space environment is as much a part of the “natural environment” as are terrestrial domains and it appears that it was the intention of the drafters of these provisions that the phrase be interpreted to include the outer space environment.²¹ The scope of this prohibition, and the question of whether or not this prohibition has attained the status of customary international law, remains a matter of debate.²²

Notably, *API* also requires that in the study, development, acquisition or adoption of a new weapon, means or method of warfare, State Parties determine whether its employment would be prohibited by the Protocol or any other applicable rule of international law,²³ which would include the rules referred to above. This requirement contains no terrestrial limitations, and so would arguably apply equally to the development of counter-space weapons.

The application of these core IHL principles would require those planning and conducting attacks on satellites or other space objects during armed conflict to ensure that the objective’s nature, location purpose or use makes an effective contribution to military action. Additionally, it would require that the effects of attacks be subject to certain limitations in accordance with the relevant principles. For example, in accordance with the principle of proportionality States would arguably be required to avoid attacks that may be expected to cause excessive harm to civilians or civilian objects through contamination of or the creation of long-lived debris in the space environment.

Limitations on weaponry

There are a number of international treaties that place limits on the various forms of weaponry that might be employed into, from, or through outer space. However, these limits are typically not customary, and apply primarily to State Parties.

The 1963 *Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water* (the *Limited Test Ban Treaty*), which preceded the major space treaties, prohibits nuclear weapons tests “or any other nuclear explosion” in the atmosphere, in outer space, and under water.²⁴ There is continued debate over whether this prohibition has attained the status of customary international law such that it is applicable also to States not party to the treaty.²⁵ The 1996 *Comprehensive Nuclear-Test-Ban Treaty*, which would ban all nuclear explosions in all domains whether for military or for peaceful purposes, is yet to enter into force, despite widespread participation, as a result of the non-participation of a number of nuclear powers.

The 1995 *Convention on Certain Conventional Weapons’ Protocol IV on Blinding Laser Weapons* (the *Protocol on Blinding Laser Weapons*) would prohibit the use in situations of

²¹ The drafters specifically considered the relationship between Article 35(3) and Article 1 of the *Convention on the Prohibition of Military and any other Hostile Use of Environmental Modification Techniques (ENMOD)*, which applies to outer space, and determined that the Protocol supplements the Convention (Sandoz, Swinarski and Zimmerman (eds.), *Commentary on the Additional Protocols of 8 June 1977 to the Geneva Conventions of 12 August 1949* (1987), paras. 1450-1453.

²² While there is significant evidence of State practice and *opinio juris* in support of the principle, including in numerous States’ military manuals, a number of States have consistently rejected the proposition that it represents customary international law, particularly with respect to the use of nuclear weapons. See the discussion in Jean-Marie Henckaerts and Louise Doswald-Beck, *Customary International Law: Volume I: Rules* (2005), pp. 151-155.

²³ *API*, Article 36.

²⁴ *Limited Test Ban Treaty*, Article 1.

²⁵ Despite widespread and representative participation in the treaty, certain nuclear powers remain non-participants. Although there is evidence of State practice in support of the establishment of the prohibition as a customary norm given no country has conducted a nuclear explosion in the atmosphere, in outer space, or under water since 1980, it is not clear whether this represents *opinio juris*.

international armed conflict of space-based lasers specifically designed to cause permanent blindness.²⁶ There is a good argument that this prohibition has attained the status of customary international law such that it is applicable also to States not party to the treaty.²⁷

The 1976 *Convention on the Prohibition of Military and any other Hostile Use of Environmental Modification Techniques (ENMOD)* prohibits State Parties from military or hostile use in outer space – whether in peacetime or in armed conflict – of “environmental modification techniques” having widespread (encompassing an area of several hundred square kilometres), long lasting (lasting for a period of months or approximately a season), or severe effects (involving serious or significant disruption or harm to human life, natural and economic resources, or other assets), for the purposes of destroying, damaging, or injuring another State.²⁸ It is arguable that attacks in outer space that create long-lasting contamination of the outer space environment constitute “the deliberate manipulation of natural processes” as required under the definition of environmental modification techniques in Article II of *ENMOD*, but there is continued debate on this point. The level of participation in *ENMOD*, and the evidence of State practice and *opinio juris* in relation to *ENMOD*, are insufficient for its provisions to be said to represent customary international law.

The *ENMOD* prohibition is notably similar to the *API* prohibitions on the use of means and methods of warfare which cause widespread, long-term and severe damage to the natural environment. The prohibitions may be understood to be complementary, rather than duplicative. The *ENMOD* prohibition is directed at activities aimed at harming another State whereas the *API* prohibition is broader, directed at activities which harm the environment itself.²⁹ As noted previously, however, the applicability of the *API* prohibition to attacks in outer space remains open to debate.

ITU Constitution

The 1992 *Constitution of the International Telecommunications Union (ITU)* (the *ITU Constitution*) creates a legal framework applicable to terrestrial and space based telecommunications activities. The *ITU Constitution* prohibits “harmful interference” with such telecommunications activities.³⁰ “Harmful interference” is defined as “interference which endangers the functioning of radio-navigation service or of other safety services or seriously degrades, obstructs or repeatedly interrupts a radio-communication service.”³¹ The *ITU Constitution* provides that States retain their entire freedom with regard to military radio installations, but does require the military to observe the prohibition on harmful interference “so far as possible.”³²

²⁶ *Protocol on Blinding Laser Weapons*, Article 1.

²⁷ The *Protocol on Blinding Laser Weapons* was adopted by consensus, with every State said to have been involved in the development of anti-personnel laser systems present at the negotiation conference and later becoming party to the Protocol, with one exception (the stated policy of which mirrors the Protocol). There is strong evidence of both State practice and *opinio juris* in support of the customary nature of this norm. There have been no reports that such weapons have been deployed or used by any State since the adoption of the Protocol, and Government statements, including of non-participants, are consistent with the prohibition.

²⁸ *ENMOD*, Article 1. The parenthetical interpretation of the terms “widespread”, “long-lasting” and “severe” are provided in an understanding of the Consultative Committee of Experts, which is provided in the Annex to *ENMOD*.

²⁹ Sandoz, Swinarski and Zimmerman, *op. cit.*, paras. 1450-1453.

³⁰ *ITU Constitution*, Article 45(1).

³¹ *ITU Constitution*, Annex, para. 1003.

³² *ITU Constitution*, Article 48(1)-(2).

The *ITU Constitution* effectively prohibits interference with the services of radio-communications satellites, but allows such interference where necessary for military purposes. The latitude afforded to State's militaries by the *ITU Constitution* means the prohibition on harmful interference with telecommunications activities would likely have no application in armed conflict situations between belligerents. In situations of armed conflict, any interference with radio-communications satellites (if it reached the threshold of "attack" under IHL), would have to comply with at least the of rules IHL having the status of customary international law outlined above (e.g. those on distinction, proportionality and unnecessary suffering).

International environmental law

Certain obligations and principles of international environmental law, which apply to activities of States that have trans-boundary effects on other States or areas beyond the jurisdiction of any State, may be applicable by analogy to the activities of States in outer space.

Principle 21 of the 1972 Stockholm Declaration (reiterated in Principle 2 of the 1992 *Rio Declaration on Environment and Development (Rio Declaration)*, the 1992 *UN Framework Convention on Climate Change (UNFCCC)* and the 1993 *Convention on Biological Diversity (CBD)*) provides that States have a general obligation to ensure that activities within their jurisdiction and control respect the environment of other States or of areas beyond the limits of national jurisdiction. This obligation was affirmed by the ICJ in the 1996 *Nuclear Weapons Advisory Opinion* as being part of the corpus of international law relating to the environment³³ and was later reaffirmed by the ICJ in the *Gabcikovo-Nagymaros Project* decision.³⁴ There is a strong argument that this obligation has now attained the status of a customary rule of international law.³⁵

Although originally expressed in relation to terrestrial domains, the obligation of States to ensure their activities respect the environment of areas beyond the limits of national jurisdiction is arguably equally applicable to outer space. "Areas beyond the limits of national jurisdiction", although previously used in reference to the high seas, Antarctica and other areas of the terrestrial "global commons", could be considered to include outer space, given that like these domains, it is immune to claims of sovereignty. Under Article II of the *Outer Space Treaty*, outer space, including the moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty or any other means. In the outer space context, this obligation could arguably be interpreted to imply a customary duty of States to avoid activities that would contaminate outer space, the moon and other celestial bodies.³⁶

Regardless of its status under customary international law, this obligation could not be taken to prevent a State acting in self-defence to destroy an object in outer space. The ICJ in the *Nuclear Weapons Advisory Opinion* indicated that it did not consider that treaties protecting the environment could have intended to deprive a State of the exercise of its right of self-defence. However, the ICJ emphasised that environmental considerations would still form

³³ *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, (1996) I.C.J. 226, 241-2.

³⁴ *Gabcikovo-Nagymaros Project* (Hung. v. Slov.) 1997 I.C.J. 7, 41.

³⁵ The obligation has been endorsed in numerous General Assembly resolutions and acts of other international organisations, and has been asserted (and not contested) as a rule of customary international law by a number of States before the ICJ, including in the 1995 *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v. France) Case* (1995) I.C.J. 288 and the *Nuclear Weapons Advisory Opinion*: see further the discussion in Sands, *Principles of International Environmental Law* (2003), 195-200.

³⁶ Marchisio, *ibid.*

part of the essential assessments of necessity and proportionality in the planning and conduct of military activities, stating that:

[S]tates must take environmental considerations into account when assessing what is necessary and proportionate in the pursuit of legitimate military objectives. Respect for the environment is one of the elements that go to assessing whether an action is in conformity with the principles of necessity and proportionality.³⁷

Another international environmental legal principle with potentially analogous application to space security is the precautionary principle. As encapsulated in the 1992 *Rio Declaration* and successive environmental treaties such as the 1993 *CBD* and the 1992 *UNFCCC*, the precautionary principle provides that where there is a threat of serious or irreversible damage to the environment from an activity, lack of full scientific certainty about the effects of that activity shall not be used as a reason for avoiding measures to prevent such damage.³⁸ Applied to State activities in outer space, the precautionary principle would require that States take appropriate measures to minimise the deleterious effects of their activities in the outer space environment prior to conducting those activities. Such measures might include consultation with other States on the likely effects of the activities.

Conclusions

While States generally agree that international law applies to States' activities in outer space, there is little agreement on how obligations and principles of international law apply to security issues in outer space, and which obligations and principles apply beyond those articulated in the key UN General Assembly resolutions, declarations of States and treaties dealing specifically with outer space. As highlighted in this paper there are a number of additional obligations and principles of international law that may also be applied to actions of States with implications for space security. These include the rules of the *UN Charter* regarding the use of force and self-defence, core principles of IHL, the provisions of treaties constraining the use of certain weapons and activities that cause harmful interference to telecommunications activities, the obligations of States not to engage in activities harmful to areas outside their national jurisdiction and to take precautionary measures in relation to actions which might cause serious or irreversible damage to the environment.

It is notable that there is a series of similar obligations in the bodies of customary and conventional law highlighted in this paper relating to constraints on State actions that would contaminate the outer space environment and/or interfere with the activities of other States in outer space. In the law on the use of force, IHL and relevant weapons conventions, there are obligations that would constrain uses of force in self-defence or attacks where the resulting contamination of outer space or debris would constitute a disproportionate harm, or cause widespread, long-term and severe damage to the natural environment. There is an obligation in international environmental law to avoid harm to areas outside national jurisdiction which might be applied by analogy to outer space. In international telecommunications law, there is an obligation to avoid activities that would cause harmful interference with telecommunications services. While further discussion and study of these obligations and their application to States' activities in outer space is necessary, it is arguable that the destruction of space objects

³⁷ *Legality of Threat or Use of Nuclear Weapons*, Advisory Opinion, (1996) I.C.J. 226, 242.

³⁸ 1992 *Rio Declaration on Environment and Development*, Article 15; 1992 *UN Framework Convention on Climate Change*, Article 3(3); 1993 *Convention on Biological Diversity*, Preamble.

resulting in long-lasting space debris – whether in peacetime or armed conflict – is the sort of activity these obligations would prohibit.³⁹

Debate about whether and to what extent the principles and obligations highlighted in this paper would apply to specific space security scenarios continues. It is clear there is a need for further study and discussion in this area, to facilitate agreement amongst States on the application of the law, and in turn build transparency and confidence in how States can be expected to act on security issues. It would therefore be timely for States to reaffirm the applicability of international law, including the UN Charter, to States' activities in outer space, recognise the contribution that working towards a common understanding of how international law applies to outer space can make to confidence-building and international security and consider potentially applicable international law obligations and principles when planning their space activities.

³⁹ While not the focus of this paper, it is important to acknowledge that the draft *International Code of Conduct for Outer Space Activities* proposed by the EU, and supported by a number of non-EU countries including Australia, seeks to elucidate these obligations in a non-legally binding political commitment to “refrain from any action which brings about, directly or indirectly, damage, or destruction of space objects”, unless such action is necessary to reduce space debris, for imperative safety considerations or self-defence (Article 4.2). This clear statement of principle, and the tightly defined exceptions to it, would provide useful guidance to States on how to act consistently with their international legal obligations in outer space.

B. Issues paper submitted by the Government of Australia*

International law applicable to outer space

There is general agreement among States that international law applies to the activities of States in outer space

- this view has been adopted by the UN General Assembly (in resolution 1721, 20 December 1961, and 1962, 13 December 1963)
- and codified in Article III of the 1967 Outer Space Treaty, which provides States “shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations”.

But there is limited formal agreement about which particular principles of international law apply to State behaviour in outer space beyond the provisions of the five existing UN space-related treaties (the 1967 Outer Space Treaty, the 1968 Rescue Agreement, the 1972 Liability Convention, the 1975 Registration Convention and the 1979 Moon Agreement)

- and the provisions of a limited number of other multilateral treaties, as identified in the report of the previous GGE in 1993 (the 1963 Limited Test Ban Treaty, the 1976 Convention on the Prohibition of Military and any other Hostile Use of Environmental Modification Techniques (ENMOD) and the 1992 International Telecommunications Union (ITU) Constitution and Convention).

As identified in the 1993 GGE report, while the existing legal regime can be seen as a framework of confidence-building measures in outer space, there is still a need for clarification of how the law might apply (paras. 137-138).

A large number of different bodies of international law are potentially applicable to State behaviour in outer space, depending on the circumstance, including

- the law on the use of force
- international humanitarian law
- international criminal law
- international human rights law
- international environmental law
- international telecommunications law
- international trade law
- the law on State responsibility

but it will be extremely difficult to draw principles from across all in the limited time available to this session of the GGE.

Given the GGE’s First Committee (Disarmament and International Security) mandate, we suggest a focus on identifying specific principles from those bodies of law with particular relevance to security issues would be of greatest utility to the GGE.

* Paper submitted by the Government at the invitation of the Chairman of the Group of Governmental Experts during the Plenary Session of the Conference on Disarmament in August 2012.

Work in this area could usefully explore the application of those principles of the existing UN space-related treaties and other relevant treaties which touch on security issues, including

- the provisions on testing and placement of weapons of mass destruction in space in the Test Ban and Outer Space Treaties; and
- the provisions on damaging or harmful activities in outer space and modification and contamination of outer space in the Outer Space Treaty, the Liability Convention, the ENMOD Convention and the ITU Convention.

Bearing in mind the general agreement that at least the principles of the UN Charter apply to State behaviour in outer space, work on the application of international law relevant to security in outer space could also explore the application of key principles of the law on the use of force, including

- what actions of States in outer space might constitute a prohibited use of force under Article 2(4) of the UN Charter
- what actions of States in outer space might constitute a threat to the peace, a breach of the peace or an act of aggression to which the UN Security Council might respond in accordance with Articles 39, 41 and 42 of the UN Charter
- what actions of States in outer space might constitute an “armed attack” giving rise to a right of self-defence by States under Article 51 of the UN Charter
- what actions of States in outer space might be permissible as self-defence under Article 51 of the UN Charter.

We also see utility in seeking to identify

- how key principles of international humanitarian law (necessity, proportionality, distinction and unnecessary suffering) might apply to armed conflict in outer space
- how the law on State responsibility might apply to actions of States in outer space that fall short of the threshold of use of force under Article 2(4) of the UN Charter but might still be considered internationally wrongful acts
- how the law of State responsibility might apply to the relationship between States and the actions of non-state actors in outer space.

If the GGE considers that this work would be a useful contribution to the development of space transparency and confidence-building measures, Australia would be pleased to develop a more extensive paper addressing these issues for consideration at the next GGE meeting.

C. Submission by the Member of the Group of Governmental Experts from Brazil on international cooperation

10 April 2013

Through its article I, the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (Outer Space Treaty) provides that exploration and use of outer space shall be (a) “carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind”; (b) “shall be free for exploration and use by all States without discrimination of any kind, on the basis of equality and in accordance with international law”; and (c) “there shall be freedom of scientific investigation, ... and States shall facilitate and encourage international cooperation in such investigations”.

While there are a number of States that nowadays have consolidated space-related capabilities, there is a continued interest by a vast majority of States to participate in outer space activities and share space technology. Some of them are already benefiting from space activities, but are largely or totally dependent upon others’ actions for their participation in these activities.

The disparities in levels of space capabilities among these groups, as well as among individual States, the inability to participate in space activities without the assistance of others, uncertainty concerning sufficient transfer of space technologies and the inability to acquire significant space-based information are factors in the lack of confidence among States. International cooperation is an important vehicle for promoting the right of each nation to achieve its legitimate objectives to benefit from space technology for its own development and welfare.

Specific measures discussed or proposed by the Group

- Promotion of capacity-building programmes on space science and technologies. These actions, of bilateral, regional and multilateral character, should be aimed at developing skills and knowledge of educators and scientists of developing countries in different areas, through theory, research, applications, field exercises and pilot projects, in order to advance their social and economic development.
- Adoption of open and free satellite data dissemination policies for sustainable economic and social development. In promoting these policies, States could also contemplate holding programmes aimed at training and educating users in developing nations to receive, interpret and make this data available to their countries’ end users in a meaningful way.

D. Submission by the Member of the Group of Governmental Experts from Italy on the response to new threats and developments

Responding to new threats and developments

The responsible use of outer space is a high priority for balancing different needs, including, but not limited to, sensitive national security interests, equitable access to space domain for emerging States, and protecting the space environment. Sustainability of space activities means the use of outer space in a way that maintains its potential to meet the needs and aspirations of present and future generations, and that permits the humanity the continued use of it for peaceful purposes, scientific and technological advancements and socioeconomic benefits.

Responsible behaviors in outer space find their roots in Art. IX of the 1967 Outer Space Treaty: States shall conduct all their activities in outer space with “due regard to the corresponding interests of all other States parties”. States are bound to ensure that the exercise of their rights and freedoms does not interfere with, or compromise the safety of, space operations and to avoid hampering the space activities of other States.

New threats have emerged, which require new commitments based on the principles of prevention, due diligence and no harmful interference to reduce the dangers of misunderstanding or miscalculation of activities which could give rise to apprehension, particularly in a situation where States lack clear and timely information.

Transparency and confidence-building measures (TCBMs) have been developed for possible use worldwide to help eliminate misperceptions and underlying security concerns, to provide reassurance about intentions, to reduce the danger of inadvertent conflict (e.g., by providing early-warning indicators), and to create better conditions for the introduction of more stringent measures generally.

TCBMs do not constrain or limit any State’s use of outer space for peaceful purposes as codified in the 1967 Outer Space Treaty. They do not impose any requirements on countries that might act as a barrier to space activities of developing countries. On the contrary, commitments to transparency and sharing of information would help the preservation of the space environment in the interest of all States.

Although the elaborated classifications of TCBMs can differ, they, as a rule, cover information, observation, constraints, communication, and declaratory pledges (such as renunciation of the use of force or of harmful interferences). In the draft International Code of Conduct for Outer Space Activities introduced by the European Union, such measures are divided into two groups: on the one hand we find substantive measures, such as measures for preventing harmful interferences in outer space and measures on space operations; and on the other hand, procedural measures, such as those on information, consultation and notification.

Furthermore, due to their distinct character, the TCBMs regimes for outer space activities should be kept separate from other legal or political frameworks dealing with disarmament or arms control in space, in order to avoid that such combinations would weaken their coherence and efficiency.

Essential Parameters for efficient TCBMs in outer space activities

Techniques of confidence-building, risk-reduction, transparency and other stability-enhancing non-binding measures call for individual States to apply norms and standards of behavior and conduct under a looser form of collective review and assessment. They include provisions that are both general and detailed, but the essential parameters of TCBMs are:

Cross-dimensionality. An important character that TCBMs should possess is cross-dimensionality. Numerous emerging threats in outer space are not only of politico-military nature, but exhibit a multi-dimensional character. Measures adopted in response are now expected to address such menaces in a complex and joined-up way. Space Debris which create risks for the human, socio-economic and environmental dimensions of outer space activities are a good example. Thus, the TCBMs agenda is bound to be affected by new factors, which need to be considered, including natural threats, such as asteroids.

Partnership and cooperation frameworks. TCBMs should be preferably developed within a context of cooperative, common and inclusive transparency and confidence building based on partnership, mutual reassurance and cooperation. Unilateral gestures (lone or parallel) are useful, but they lose the mutual “socialization” effect of proper TCBMs.

Gradualism, or a step-by-step approach. The edifice of TCBMs in outer space should be incrementally built over a certain period of time. Trying to impose the maximum conceivable “package” at one time could create the risk of collapse in the event of a major disagreement or difference over one element of the whole.

Selectiveness. It is wise to address different “baskets” of issues, even if these may in the end proceed in parallel and be mutually supporting.

Flexibility. It is advisable not to emphasize stringent legal agreements. Politically binding accords are preferable. TCBMs are flexible politically-binding tools, while in some cases they can also take an international legal character. The legal nature of TCBMs, however, does not seem to affect their efficiency much. There are mandatory TCBMs which are not effective and vice versa.

Supporting the existing legal frameworks. Generally speaking, TCBMs help States in better abiding by the international obligations they have assumed through legally binding instruments. In a sense, they carry out a servicing role with regard to the existing international treaties on outer space. Non-mandatory TCBMs do not impinge upon these obligations, but create a better environment for fulfilling them.

Combine operational and declaratory measures. Sending positive signals is of essential importance for the political climate of dialogue. In addition to operational significant measures, politically declaratory measures can be useful in creating the “language” of a better security relationship.

Continuity and open-endedness. TCBMs are a continuing process. Once started it cannot merely be stopped at some stage and declared complete. Even in the most advanced regime, the dynamism of developments in outer space activity calls for its cultivation and further development and adaptation. Follow-up mechanisms are advisable.

Supporting transparency among non-State actors. Transparency and confidence cannot be built by purely top-level State-to-State contacts while ignoring other realities and other actors of outer space activities. This underlines the importance of designing the measures to

promote contacts at other levels, and of seeking transparency (to the extent possible) between private actors as well as official establishments.

Role of international organizations. Support and “good offices” from international organizations (regional, global, such as the UN) are advisable in order to give legitimacy to sought-for agreements, and to provide know-how and technical assistance.

Part of a wider cooperative process. TCBMs are not a cure-all for safety, security and sustainability problems of outer space activities. They serve broader objectives. TCBMs constitute part of the outcome of a wider cooperative process amongst States; they facilitate and embody the process, rather than creating it. Stability and predictability are preconditions for confidence. Strong overarching goals, such as keeping outer space free for exploration and use for the benefit of humankind and building durable peace in outer space, should be shared by all involved parties using TCBMs. In this sense, the adherence to the major UN treaties on outer space is a precondition for transparency and confidence building.

Finally, *cooperation* among States is the first and foremost TCBM. In the 1967 OST, the principle of cooperation and mutual assistance is not construed as an obligation, but rather, as a guide to be concretized by more detailed rules. Art. IX of the OST, together with the UNGA 1996 Declaration on International Cooperation in the Exploration and Use of Outer Space, bases international cooperation on the free determination of fair, equitable and mutually acceptable contractual terms. The principle applies to all modes of cooperation, including governmental and non-governmental, commercial or non-commercial, multilateral, regional and bilateral, and among countries in all levels of development.

E. Submission of the Government of Japan on transparency and confidence-building measures in outer space activities*

March 2013

Japan welcomes and supports the convening of the Group of Governmental Experts (GGE) on Transparency and Confidence-Building Measures (TCBMs) in Outer Space Activities as established in the Resolution 65/68 of 8 December 2010 of the UN General Assembly. As the number of space-faring nations continues to increase in recent years, harmful activities such as the intentional destruction of a satellite in 2007, which is said to have caused more than three thousand pieces of space debris, now threaten our space activities and consequently our social activities in general. Against this backdrop, TCBMs in outer space activities would greatly contribute to the maintenance and enhancement of space security and stability as well as to the prevention of an arms race in outer space.

The concept of TCBMs has been developed over many years since the Cold War, in particular in the domain of conventional military activities. In the post-Cold War era, TCBMs have evolved to enhance cooperative relations among nations based on partnership and mutual reassurance. TCBMs aim to, amongst others, eliminate misperceptions and concerns, reduce the risk of miscalculation and misunderstanding, and thus to prevent inadvertent crisis and conflict. TCBMs thus provide reassurance about intentions as well as stability and predictability. Although the development of practical TCBMs is new in the space domain, there are ample examples and good practices of the past and current TCBMs, from which we can learn.

Looking at the history of past and current TCBMs in the general security field, some of their key elements are as follows: annual or regular exchange of military information, risk reduction measures such as consultation mechanism, military contacts and cooperation such as visits by military delegations, prior notification of certain military activities such as major military maneuvers, observation of certain military activities, provisions that constrain certain activities, compliance and verification such as on-site inspections, and direct communications.

Obviously, these measures for terrestrial military activities have developed over a number of years and cannot always be readily applied to the space domain. At this nascent stage, some of the key TCBMs to be adapted to the space domain would be annual or regular exchange of information concerning space policy and planning, consultation and possible investigative mechanism on space activities that may have affected another state's activities, prior notification of certain space activities, mutual visits of space launch sites, provisions that limit the circumstances for actions which result in intentional destruction of space objects, and direct communication between relevant space agencies.

In this regard, a draft International Code of Conduct for Outer Space Activities proposed and subsequently amended by the EU since 2008 is a very good basis for developing TCBMs in the space domain. In fact, the draft Code does already incorporate such key elements for possible space TCBMs with a crucial provision limiting, except for certain limited cases, actions that brings about, directly or indirectly, damage or destruction of space objects.

Although the GGE on TCBMs in outer space is not a place to deal with the draft Code, we are aware that the GGE is now putting together a list of basic elements of space TCBMs to

* Paper submitted by the Government at the invitation of the Chairman of the Group of Governmental Experts during the Plenary Session of the Conference on Disarmament in August 2012.

be voluntarily adopted by space-faring and emerging nations, which we commend. In putting together such a list, it might be useful to categorize relevant TCBMs into different phases; some measures could be adopted early while others at a later stage.

We believe that one of the most important elements of TCBMs in outer space would be exchanges of information on the following points in a voluntary but comprehensive manner: (A) disclosure of space launch plan, (B) conjunction assessment and collision avoidance notifications, processes and procedures, (C) abnormal conditions which could result in a hazard to spaceflight safety, (D) operating situation (start of operation, end-of-life and point of contact) and (E) measures to avoid re-entry impact. We acknowledge that most of them are already incorporated in Section 6 of the draft International Code of Conduct, but some still remain unaddressed.

In avoiding further deterioration of the environment due to on-orbital collision in space activities, it is crucial to offer the satellite operator notification regarding traffic conditions and potential crowding, when and where the incidents to create new debris occur, and any potential objects in its collision. For example, international frequency coordination including placement coordination of GEO under the regulations of ITU and/or communication for collision avoidance among several commercial operators has contributed to collision avoidance. These measures are elements of (A) to (C) and partially (D) of the above-mentioned. However, it seems preferable that other elements be incorporated for the sustainable space activities.

Japan would therefore like to present the following concrete ideas on voluntary TCBMs in order to further ensure transparency and confidence in outer space activities with a view to stimulating and providing input to discussions in the GGE. It should be noted however that these ideas should not prejudice Japan's future position on TCBMs and that when they are to be materialized, national security interests need to be taken into account.

1. To encourage space-faring nations to exchange information on the following elements on a voluntary basis to complement the existing schemes of element (B), (C) and (D).

- (1) The operational point of contacts (POC) for each operational (or operated) satellite.

Though there is some information available from conjunction analysis messaging services, an operator may not necessarily identify the operator of an approaching object. If this information would become available, operators could coordinate bilaterally to consider their collision avoidance maneuvers more properly.

It would also be of merit if States consider furnishing enhanced registration information on any change of status in operations as recommended in the UN General Assembly Resolution 62/101 (Recommendations on enhancing the practice of States and international intergovernmental organizations in registering space objects).

- (2) Abnormal conditions which may lead to deterioration of orbital environment.

Satellite operators are expected to provide information on abnormality or their abnormal situations which may lead to on-orbital break-ups, or increase the risk of on-orbit catastrophic collision. This proposal is to encourage satellite operators to provide information, and to notify space situational awareness organizations and operators to monitor the orbital environment.

2. To set up an Integrated Registry System similar to the UN Registry of Conventional Arms.

It would be of considerable use in terms of TCBMs, if the above-mentioned information could be gathered at a certain central point such as within the UN.

The voluntary participation of the industry and other related international governmental and non-governmental organizations such as WTO, IAEA, ITU, UNESCO, UNEP, EUMETSAT, Intelsat, SES, JSAT, various insurance companies, aerospace manufacturing companies, etc., would help greatly in aiding to precision and transparency. This will contribute to ensuring that the operators concurrently know the contact points and the situations of the space objects.

The following existing TCBMs systems related to (outer) space activities should also be included in the System.

- (a) UN Registry of space objects;
- (b) Registry of space objects maintained by the international non-governmental organizations (e.g., academic society such as COSPAR) and leading space-faring nations. One example is that of the National Space Science Data Center of NASA;
- (c) Information disseminated such as TLEs, Satellite Catalogue, and Decay by the US (space situational awareness (SSA));
- (d) Information gathered at the STSC and LSC of the UNCOPUOS about space debris (mitigation);
- (e) Information gathered at the IADC about space debris (mitigation);
- (f) Open source information about space objects and space debris such as NASA SPACE Debris Quarterly;
- (g) Pre-Launch Notification supplied by NOTAM and Notices to Mariners;
- (h) Slots of the GEO and frequency information granted and maintained then gathered at the ITU (those are not necessarily open to the public);
- (i) Activation information of the International Disaster Charter;
- (j) Satellite data by the international systems such as GEOSS, CEOS, IGOS-P, etc; and
- (k) Academic reports about space exploration and use.

3. As part of the element (E), ultimately, the best solution would be to reduce the existing space debris in order to enhance spaceflight safety, but the following would also contribute to reduce the risk of ground casualties.

According to the results of analysis, several types of components and parts of space objects would survive re-entry and impact on the ground. In order to reduce the risk on the ground, it is better to encourage the design measures to limit surviving objects or control impact zone. For instance, it will be beneficial to encourage satellite manufacturers to use easy melting propulsion tanks for the satellite once this new technology is established.

F. Submission by the Member of the Group of Governmental Experts from Kazakhstan on transparency and confidence-building measures in outer space activities¹

I would propose that the practical action taken by Kazakhstan be borne in mind when examining the goal of developing international transparency and confidence-building measures in outer space activities to contribute to peace, security, international cooperation and prevention of an arms race in space.

Having experienced the consequences of the nuclear explosions carried out at the Semipalatinsk test site, Kazakhstan offers the international community an example in having renounced ownership of a nuclear arsenal and having initiated the signature of the Astana Declaration on a Nuclear-Weapon-Free World.

Such space-related initiatives must take into account not only the current basis for outer space activities in international law, but also progress in science and technology. They must determine the future course of efforts to rally the international community around the goals of peaceful use of outer space, and be rooted in pragmatism and practicality.

In the light of the foregoing, I would propose the following ideas:

1. Support should be given to the joint proposal of China and the Russian Federation to adopt a Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects.

2. All United Nations Member States with space capabilities should be urged not to place any type of weapon in space.

3. An initiative should be undertaken to establish an instrument to monitor implementation of the Convention on Registration of Objects Launched into Outer Space. The establishment of such a United Nations arbitration instrument could best be achieved by integrating the data from the United States and Russian Federation outer-space monitoring systems. The task of creating an integration entity should logically be entrusted to an authoritative and neutral organization specializing in monitoring outer space.

This proposed mechanism would be a highly realistic and cost-effective way of building confidence in outer space activities and decreasing the tension surrounding the exploitation of the potential of anti-missile defence systems.

4. Efforts should continue to encourage States to become parties to the existing international treaties on space activities.

5. Member States of the United Nations should be asked to inform the United Nations Office for Outer Space Affairs (UNOOSA) Legal Subcommittee of any treaties concluded between them on issues relating to the use or exploration of outer space for peaceful or military purposes, and to make available strategy and programme documents regarding States' exploration and use of outer space.

6. A mechanism should be put in place to ensure transparency in national space programmes. Current scientific and technological levels of progress, and prospects of

¹ A/CONF.220/WP.2.

development in the future, reflect a narrowing of the design gap between civilian and military uses. Dual-use projects are increasingly common. Even projects to develop space debris collection systems, for example, could be adapted into anti-satellite systems.

Consequently, it would make sense to support proposals invoking the need to inspect the final attaching of a spacecraft to its launch vehicle. Information from a United Nations inspection committee on the match between the reported purposes of a spacecraft and its actual design could usefully be integrated with the Register maintained by the United Nations Secretary-General.

7. Transparency and confidence-building measures in outer-space activities should be viewed as a broader concept based on interlinking documents establishing the principles of peaceful use of outer space and establishing transparent conditions to provide developing countries with equal access to rocket technology.

In the absence of succinct criteria for membership of the Missile Technology Control Regime (MTCR), a number of countries have spent considerable time making unsuccessful attempts to join it. This situation negatively affects the level of trust in the system established by the spacefaring nations for access to outer space, restricts international cooperation and threatens to expand the area in which missile technology can proliferate unchecked.

8. There should be transparency in the procedures for coordinating new geostationary satellite networks. Replacing the practice of using $\Delta T/T$ methods and coordination arcs with methods of C/I calculation would enable more accurate assessment of the number of coordinated satellite networks. Excluding redundant coordination would remove additional obstacles to equal access to the use of outer space and would build confidence in outer-space activities.

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