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PREVENTION OF AN ARMS RACE IN OUTER SPACE

Report of the Secretary-General

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\* A/43/150.

## I, INTRODUCTION

1. On 30 November 1987, the General Assembly adopted resolution 42/33, paragraphs 13 and 16 of which read as follows:

"The General Assembly,

"...

"13. Requests the Secretary-General to invite the views of Member States on all aspects of the question of the prevention of an arms race in outer space and to submit a report to the General Assembly at its forty-third session;

"...

"16. Decides to include in the provisional agenda of its forty-third session the item entitled 'Prevention of an arms race in outer space'."

2. Pursuant to paragraph 13 of the resolution, the Secretary-General submits herewith the replies thus far received from Bulgaria, Burkina Faso, France, Norway and the Philippines. Other replies related to this item will be issued as addenda to the present report.

## II. REPLIES RECEIVED FROM GOVERNMENTS

### BULGARIA

[Original; English]

[5 May 1988]

1. Preventing an arms race in outer space is a matter of global import, for it concerns the security and development interests of all countries. In this context the Government of the People's Republic of Bulgaria declares itself for the elaboration of practical and effective measures conducive to removing for ever the threat of the transformation of outer space into an arena of military confrontation,

2. Efforts by the Union of Soviet Socialist Republics and the United States of America, as they negotiate on nuclear and outer space armaments issues, are of particular significance in achieving such measures. The Treaty between the Soviet Union and the United States on the elimination of their intermediate-range and shorter-range missiles has become an historical first step along the road to nuclear disarmament. Bulgaria has noted with satisfaction that, at the Washington summit meeting between M. Gorbachev and R. Reagan, the two leaders gave instructions to their respective delegations in Geneva to reach a treaty on 50 per cent reduction of strategic offensive weapons, and an agreement to observe the ABM Treaty as signed in 1972. The Government of Bulgaria welcomes the flexibility displayed by the Soviet side in that it agreed to have the United States SDI taken out of the negotiations agenda and to drop its insistence to close

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that programme as a pre-condition for reaching a 50 per cent reduction of strategic offensive weapons. Carrying out research, development *and*, if necessary, testing are admissible if allowed under the terms of the ABM Treaty. Concurrently, Bulgaria fully ~~comprehends~~ *and* supports the Soviet position not to allow ~~sidetracking~~ moves to ~~initiate an arms race in outer space~~ in the present situation, whereas the nuclear ~~disarmament~~ process increasingly, gains in concrete ~~substance~~. The *signing* of a Soviet-United States treaty on the elimination of strategic nuclear weapons, accompanied by a legally binding ~~agreement~~ to observe the ABM Treaty and not to derogate from it for an agreed upon period, would be an extremely important and tangible step in ~~strengthening~~ strategic stability, and preventing an arms race in outer space,

3. The *task* of not allowing deployment in outer ~~space~~ of weapons of any kind whatsoever required that efforts in ~~this~~ respect be internationalised, and that an ever larger number of ~~States~~ become involved in the elaboration of efficient ~~measures~~. The United Nations could play a major role in fostering intolerance towards *any* attempts to violate the ABM Treaty, as well as in reaching agreements, in the first place, on banning anti-satellite systems and armaments of the "Space-Earth" class.

4. It is necessary to make more vigorous the activities of the Conference on Disarmament and, in particular, to renovate the mandate of the Ad Hoc Committee of that Conference *on* the prevention of an arms race in outer space in such a way as to stimulate the elaboration of specific ~~agreements~~. The current "examining" mandate is already exhausted and inadequate with regard to the genuine interest of the international community in concrete results. What is more, numerous proposals have been tabled in Geneva by delegations of many States. ~~Those~~ proposals deserve serious and immediate ~~consideration~~. They address both the ~~comprehensive~~ solution of the problem of the prevention of *an* arms race in outer space and ~~its~~ specific ~~aspects~~. ~~Bul~~aria views the work of the Conference on Disarmament on this matter ~~as~~ one of the prospective avenue<sup>8</sup> of the Geneva forum for the coming years. Besides, Bulgaria proposes to intensify the practical and ~~purposeful~~ work of the Conference on Disarmament in the area of the prevention of an arms race in outer ~~apace~~ in such a way so that bilateral and multilateral negotiations complement each other and pursue the same goal.

5. In keeping with this approach, inter alia, two Socialist countries at the Conference *on* Disarmament introduced at the 1987 session a paper entitled "Basic ~~provisions~~ of a treaty on the prohibition of anti-satellite weapons and on ways to ensure immunity of space objects". For its part the Bulgarian delegation addressed the ~~issue~~ of the definition of space weapons.

6. Innovative and comprehensive in its design is the Soviet initiative to proceed immediately, without waiting for the achievement of the respective outer space agreement, to establishing a system of international verification with a view to preventing the deployment in outer space of weapons of any kind. The underlying idea of such a system lies in establishing the fact that the objects launched and deployed in space are not weapons and are not equipped with any kind of weapons, ~~As~~ a State that has participated in outer space activities, one that has sent a cosmonaut into orbit, and as an active participant in international co-operation,

the United Nations framework inclusive, Bulgaria is ● specially interested in the achievement of such a reliable verification system with respect to the launching or deployment of objects in outer space.

7. The Soviet initiative, presented at the Conference on Disarmament in March 1988, furnishes the essential provisions for an international outer space inspectorate and constitutes a solid basis for commencing substantive discussions on the future system. The Soviet concept on the establishment and functioning of the international space inspectorate builds ● entirely on the new political thinking in the foreign policy course of the USSR and the Socialist countries. It is based on the major precepts characterizing, more recently, the process of elaboration of disarmament measures: openness and strengthening of confidence through data exchange and effective international verification, including on-site inspection and inspection on request. The on-site inspection immediately prior to launching a space object is, undoubtedly, the most simple and efficient way of getting assurances that objects launched and stationed in space are not weapons or are not equipped with weapons of any kind. The approach proposed by the Soviet Union places direct emphasis on feasibility. The elaboration and adoption of an international verification system for the purpose of non-admission of weapons of any kind into outer space would be a timely and efficient measure as scores of countries are in the process of implementing or intend to implement programmes for the peaceful exploration and use of outer space. To put such a measure into effect would not hamper the orderly and unimpeded development of national space programmes or international co-operation for peaceful space exploration. This development is not made conditional upon future specific agreement or agreements concluded by United Nations Member States in their endeavour to refine and complement the international legal régime concerning peaceful uses of outer space and preventing an arms race in that environment.

8. Bulgaria addresses with interest the proposals and suggestions on the prevention of an arms race in outer space introduced by other States in the Conference on Disarmament. It states its readiness to study and discuss them in a constructive way with a view to finding common elements in the approaches and the goal of resolving speedily the issue of non-admission of weapons into outer space.

9. The leading principle in the attitude of Bulgaria remains the generally accepted view that outer space is the common heritage of mankind and that, consequently, its exploration and use should be reserved exclusively for peaceful purposes in order to promote the scientific, economic and social development of all countries.

BURKINA FASO

[Original; French]

[10 May 1988]

Burkina Faso believes that space - the common property of mankind - must be used for peaceful purposes to promote the welfare of man. Accordingly, it keenly regrets the many attempts to militarize space made by certain major Powers, which

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represent a potential danger to all mankind. It is the overriding duty of the two **super-Powers**, the United States and the Soviet Union, to avoid at all **costs** the use of space to develop military **strategies** which would threaten the entire world.

FRANCE

[Original; French]

[31 March 1988]

1. France attaches the **highest** importance to the prevention of an arms race in space. It **believes** it **essential** to avoid competition in the deployment of space weapons, which would **destabilize** the international strategic situation and compromise the safety of space exploration and exploitation for peaceful ends.

2. The prevention of an arms race in space must be viewed in the context of the growth in space activities over the past 30 years and more.

I.

3. Today, 70 per cent of space activities are **military** in nature. The United States has had operational **reconnaissance** satellites since 1960; the USSR followed in 1962. These two States have always taken the lead in the military exploitation of space, but other countries now have military space **programmes** as well. Today, satellites are **used** in **six** important **functions** for the military:

(a) Early warning of missile launching and the detection of nuclear explosions;

(b) Surveillance of military activities and **reconnaissance**;

(c) **Communications**;

(d) Navigation)

(e) Meteorological information

(f) Geodesic data collection.

4. Some of these functions (observation of military activities, detection of nuclear explosions) are of direct application in arms control and disarmament, since the **satellites** which perform them play a major role in monitoring compliance with agreements in this area.

5. Nevertheless, the primary mission of military satellites is to permit the more efficient deployment of **military** forces in general. This role is likely to expand and may become essential, especially where communications and navigation are concerned.

6. Land-, sea- and air-based forces, are increasingly dependent on satellites, which function as the space segment of land-based weapon systems. This dependence has made the Governments concerned begin to worry about protecting systems whose destruction would severely diminish the effectiveness of their military forces, and to develop means of destroying enemy satellites, which have become attractive targets. Nevertheless, efforts seem to have been devoted rather to enhancing satellite survivability than to deploying anti-satellite systems.

7. Never since the earliest days of exploration, then, has space been a specially an intercontinental missiles are in space for part of their trajectories. Nor, however, has it been used as an emplacement for specific weapons systems directed against other space objects (enemy satellites) or activities conducted from the ground (ballistic missile firings, for example). The anti-ballistic-missile technology programme now in progress could lead to the deployment of systems in space. Such development would be certain to change the nature of the problem posed by the arms race in space,

8. Although civilian activities in space are in the minority, their importance is likely to grow. They are clearly basic to the exploration of the universe. They are also vital for telecommunication, television and the observation of global phenomena. Developments in this area have also had a number of spin-offs in the industrial sector.

9. Civilian activities have today made intensive scientific and commercial exploitation of space possible. This exploitation is not confined to the United States and the USSR, but has rapidly opened up to a growing number of participants and users. Established competition in the commercialisation of space services is helping to make space application accessible to all States, irrespective of their levels of economic and scientific development. It is thus in the interests of the international community as a whole to ensure that the security and freedom of civilian uses of space are safeguarded.

10. It must be noted that the distinction between civilian activities and military activities tends on occasion to become less and less clear-cut. One satellite may be used for military or civilian communications or may provide navigational assistance to military or civil aircraft and shipping.

11. Moreover, the quality of the imagery from civilian remote sensing satellites is going to become progressively closer to that of military satellite imagery.

## II.

12. Existing international law already puts important restrictions on military activities in space through a number of multilateral legal instruments and bilateral treaties between the United States and the USSR. The former category includes :

(a) The Charter of the United Nations, whose stipulations relating to the use of force also apply to space and thus prohibit the use of force in space except for self-defence;

(b) The 1967 Outer Space Treaty, This prohibit8 the placement in orbit around the earth of any objects carrying nuclear weapon8 or any other kind8 of weapon8 of mass destruction, the installation of such weapons on celestial bodies or their stationing in space in any other manner. It also prohibit8 the establishment on the moon or other celestial bodies of military installations and fortifications, the testing of any type of weapon8 and the conduct of military manoeuvres ;

(c) The Partial Test-Ban Treaty of 1963, which prohibit8 all nuclear-weapon tests and other nuclear explosions in the atmosphere, in outer space or under water.

13. The basic bilateral Soviet-American treaties are:

(a) The 1972 Treaty on the Limitation of Anti-Ballistic Missile Systems, which proscribes space-based ABM systems. It also forbids interference with national technical means of verification and the use of deliberate concealment to impede verification by national technical means, and those provisions apply to space-based systems ;

(b) The 1971 Agreement on Measures to Reduce Risk of Outbreak of Nuclear War, which implicitly recognises that deliberate interference with missile warning systems and communications facilities, including space-based systems, will increase the risk of nuclear war and should therefore be avoided.

14. Among other agreements relating to space which have military implications, mention may be made of the Agreement on assistance to astronaut8 (1968), the Convention on damage caused by space objects (1973) and the 1976 Convention on Registration of Objects Launched into Outer Space.

15. The legal régime established by these various instruments call8 for a number of comments:

(a) It does not amount to a co-ordinated whole but consists of a composite series of partial agreements, each seeking to deal with a particular problem]

(b) Participation in the agreements is not universal but varies with each instrument. Some important matters are regulated bilaterally by agreement between the two super-Powers (the limitation of ABM systems and the ban on interference with national technical means of verification - which, admittedly, are not concerned only with systems in space);

(c) There are still conflicts of interpretation over what is permitted in space, and what is prohibited. Thus, there is disagreement on how to define the term "exclusively for peaceful purposes" used in the 1967 Outer Space Treaty, which according to one school of thought means "non-military" and according to the other "non-aggressive". The first definition implies the total demilitarization of space, which would be possible only in the context of general and complete disarmament. This is not consistent with the United Nations Charter, which does not prohibit military activities but does prohibit acts of aggression and the threat of force:

(d) **Restrictions** on the deployment of weapons in space (the ban on putting nuclear weapons and other weapons of mass destruction into orbit or deploying them on the moon or other celestial bodies, restrictions on the deployment of military forces on the moon and other celestial bodies, and the bilateral ban on space-based ABM systems) are not in themselves sufficient to prevent an arms race in space. In particular, there is no restriction on the deployment of anti-satellite systems which do not rely on nuclear weapons or weapons of mass destruction.

### III.

16. Advances in technology are clearing the way for considerable development in military systems based in space or using a space segment. In general, there is a marked increase in the dependence between military ground-based and space-based forces and systems. But this unavoidable development may lead in very different directions. The effort by the international community at large to prevent an arms race in space should in actual fact make it possible to restrict the military uses of space to activities that promote international peace and security and, hence, strategic stability, arms control and disarmament. It is already possible to identify several major categories of activity which deserve specific treatment.

17. The value of military satellites covering the six categories of activity mentioned in paragraph 3 is established, and will become more so in the future. Satellites helping to provide information on the makeup and movement of certain military units allow situations to be assessed more realistically at short notice than less precise, more haphazard reporting does. They also play a decisive role in the verification of disarmament agreements. In the future, a number of prospects merit consideration:

(a) Interaction between on-the-spot and space-based observation in the verification of arms control and disarmament agreements;

(b) Exploitation of the opportunities afforded by space technology for the introduction of confidence-building measures;

(c) Recourse to multilateral machinery such as the notion of an international satellite monitoring agency, in order to place the means afforded by satellites for verifying disarmament agreements and handling crises at the service of the international community at large. The use of satellites would thus be integrated into the effective international verification of disarmament agreements, the need for which is today universally recognized. Satellites would help to build international confidence and security.

18. The deployment of specific weapons in space would be a radical departure, changing the nature of the military use of space. The competition in anti-ballistic missile systems and anti-satellite systems raises serious risks of destabilization, which need to be clearly defined:

(a) As far as anti-missile defence is concerned, there would evidently be a close link between space-based systems - some of which, designed for early warning purposes, are already in existence - and ground-based components, together making



up part of the **defensive** element of what would then be **the** strategic **posture** of the two nuclear **super-Powers**;

The limitation of space-based anti-ballistic missile systems is thus linked to the limitation of ABM systems in general, which is itself closely bound up with the limitation of **strategic offensive arms**.

France hopes that the Geneva talks following the decisions reached by the United States and the USSR at the summit meeting in December 1987, will avert the risk that current **activities** in the field of anti-ballistic missile systems might provoke a **series** of events which would **weaken** deterrence.

(b) The limitation of **anti-satellite systems** raises a number of complex problems :

(i) **First**, systems of this kind that can strike satellites in low orbits are already operational or at an advanced stage of development. A verifiable ban on this type of system thus appears difficult;

(ii) **Secondly**, in addition to weapons systems specifically designed to destroy space objects, there are numerous techniques for putting space objects out of operation (using one satellite to destroy another by collision, or ballistic missiles entering space during their trajectories, or scrambling or falsifying data with electronic countermeasures). Even specific systems such as Earth-space lasers would be virtually undetectable until they were actually used. Furthermore, a satellite could in certain cases be attacked so discreetly that the attack and its perpetrator might never be identified with certainty; laser weapons, ground-based radio transmitters, and particle-beam systems deployed in space could also be used at power levels which, while well below "lethal", would be sufficient over repeated attacks to damage components essential to a satellite's operation. The various instances of satellite breakdown also serve as a reminder of the many difficulties inherent in identifying incidents that effect the behaviour of a satellite in orbit. A treaty banning anti-satellite systems would thus a priori be very difficult to verify and easy to circumvent!

(iii) Finally, it should be emphasized that technology which can be used in anti-satellite weapons is apt to spill over into technology developed for anti-ballistic missile defence. Its future is therefore bound up with the Soviet-American talks in Geneva, and it would be unrealistic to think that progress can be made on a multilateral régime governing anti-satellite weapons independently of the course of those talks.

19. Even a cursory examination of possible developments thus shows that the prevention of an arms race in space must be approached from a variety of directions and tackled in stages.

## IV,

20. In 1985 the Conference on Disarmament • embarked, within an ad hoc working group, on a thorough analysis of the complex problem of preventing an arms race in space. The efforts of the Conference have helped to clarify the problems involved, but have also shown that many questions remain to be taken up before participants will be ready to arrive at a common definition of the specific scope and objectives of multilateral effort to prevent an arms race in space.

21. These matters include the identification of gaps in the legal régime governing space, the role of military uses of space in the maintenance of international peace and security, the identification of the dangers threatening space objects, the relationship between preventing an arms race in space and other aspects of disarmament, and problems with verification.

22. France nevertheless deems it desirable for the Conference on Disarmament, as part of its methodical inquiry into how to prevent an arms race in space, to proceed to a serious consideration of some multilateral measures on which realistic progress seems possible.

23. In present circumstances, a combined multilateral effort should, it seems, focus principally on the legal protection of satellites and on the notions of confidence-building measures and notification. Consideration could also be given to:

(a) The reaffirmation and elaboration of the principle of non-interference in non-aggressive space activities;

(b) The formulation of a code of conduct for space, to avert the risks or fears which could be aroused by certain kinds of behaviour by space objects;

(c) The • enhancement, with a view to greater transparency, of the notification system • established by the 1975 Convention on Registration of Objects Launched into Outer Space;

(d) A discussion of the practical details of international co-operative efforts to use Earth observation satellites in the verification of disarmament accords and in crisis management.

NORWAY

[Original: English]

(13 May 1988)

1. Outer space is the common heritage of mankind and should be used exclusively for peaceful purposes. Norway considers that it is necessary to ensure that exploration and use of outer space will be carried out for the benefit of all countries, irrespective of their degree of economic and scientific development.

Accordingly, the effort to prevent an arms race in outer space should be pursued in both multilateral and bilateral forums. These efforts should be strengthened since arms control issues relating to outer space are of great importance for international peace and security.

2. Since its establishment in 1955 the Ad Hoc Committee of the Conference on Disarmament has made a useful work in contributing to a fuller identification of issues relevant to preventing an arms race in outer space. A common understanding of the scope and specific objectives of multilateral efforts is needed. Furthermore, confidence-building measures could create an atmosphere conducive to the aim of preventing an arms race in outer space.

3. While focusing on the current and future challenges to arms control issues in outer space, Norway believes that attention should also be drawn to the number of bilateral and multilateral agreements that apply or otherwise relate to outer space. The Outer Space Treaty of 1967 and the Partial Test Ban Treaty of 1963 together make outer space a nuclear-free zone. Further adherence to existing multilateral treaties and strict compliance with both multilateral and bilateral agreements would, in fact, strengthen the existing legal régime applicable to outer space.

4. The study on disarmament problems related to outer space and the consequences of extending the arms race into outer space, which the United Nations Institute for Disarmament Research prepared for the forty-second session of the General Assembly, has identified technical, legal and political issues involved in the future work towards preventing an arms race in outer space. The Institute's second research project on problems of definition and demarcation in the prevention of an arms race in outer space can be another useful contribution to creating a better understanding of the complexity of the issues involved.

#### PHILIPPINES

[Original: English]

[11 May 1988]

Considering the current global situation and noting the measures being undertaken by the super-Powers in the interest of maintaining international peace and security and promoting international co-operation and understanding, the Philippine Government reiterates its support for the peaceful exploration and use of outer space, especially for science and technology purposes that would preserve and/or ensure the survival of mankind. Accordingly, the Philippine Government supports all reasonable measures for the preservation of the arms race in outer space.

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