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## TCBMS OVER THE MILITARY USE OF OUTER SPACE

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### ABSTRACT

Evaluating the function of Confidence-Building Measures (CBMs) applied to the existing law of disarmament and arms control, the author examines CBMs and Transparency and Confidence-Building Measures (TCBMs) in space law to clarify the need to establish monitoring mechanisms for transparency and confidence-building in outer space activities.

### INTRODUCTION

Due to the increasing vagueness in space activities that could lead to misunderstanding among spacefaring States, the application of CBMs to space law has been considered to make “a positive contribution to the progressive development of new international norms for space activities.”<sup>1</sup> To explore the possibility of reinforcing space treaties dedicated to ensuring peaceful uses of outer space, the present study examines: CBMs [1], the application of CBMs to space law [2], TCBMs [3], and the application of TCBMs to space law [4].

#### 1. CBMS

##### 1.1. Nature of CBMs

In the law of disarmament and arms control,

the UN General Assembly called for the need to strengthen international peace and security through confidence-building among States.<sup>2</sup> In 1978, the goals of CBMs were defined to: (a) prevent attacks which take place by accident, miscalculation or communications failure by taking steps to improve communications between governments, particularly in areas of tension; (b) assess the possible implications of States’ military research and development for existing agreements as well as for further efforts in the field of disarmament; and (c) involve the UN Secretary-General in periodical reporting to the UN General Assembly on the economic and social consequences of the armaments race and its extremely harmful effects on world peace and security.<sup>3</sup> In 1988, the contribution of CBMs to peace, security and disarmament was reaffirmed in a UN General Assembly resolutions 43/78 H of 7 December 1988<sup>4</sup> and 44/116 U of 15 December

1989,<sup>5</sup> leading to consider the possible application of CBMs to the prevention of an arms race in outer space (PAROS).

According to the guidelines for CBMs,<sup>6</sup> the ultimate goal was defined to strengthen international peace and security and to help prevent all wars, particularly nuclear war. On the other hand, CBMs must be neither a substitute nor a precondition for disarmament measures nor divert attention from them; may be worked out and implemented independently in order to contribute to the creation of favorable conditions for the adoption of additional disarmament measures, or, no less important, as collateral measures in connection with specific measure of arms limitation and disarmament.<sup>7</sup> In sum, CBMs are not legally-binding but reinforce the existing agreements in the field of disarmament and arms control.

### 1.2. Application of CBMs in Disarmament Law

CBMs have been already applied to verification mechanisms under the law of disarmament and arms control. To demonstrate an example, the present section examines the application of CBMs to the Biological Weapon Convention (BWC) of 1972,<sup>8</sup> considering that the placement of biological weapons is prohibited by Article IV(1) of the Outer Space Treaty of 1967.<sup>9</sup>

The verification mechanisms under the BWC of 1972 are operational with 162 States Parties as of January 2009 including all of the permanent members of the UN Security Council. When the First Review Conference was held in Geneva from 3 to 21 March 1980, it concluded

with the first attempt to invite Parties to take CBMs, which are used to determine the Party's compliance under Article II of the Final Declaration of the Conference. It welcomes the declarations of the Parties on a voluntary basis to the effect either on their possession of biological warfare agents, toxins, equipment or means of delivery, or, on their having possessed but destroyed them or diverted them to peaceful purposes.<sup>10</sup> The Parties agreed to implement a set of CBMs to prevent or reduce the occurrence of ambiguities, doubts and suspicions, and to improve international cooperation in the field of peaceful biological activities.<sup>11</sup> For those purposes, the Parties held an Ad Hoc Meeting of Scientific and Technical Experts in 1987, agreeing to: exchange data on high-containment research centers and laboratories specialized in permitted biological activities; exchange information on abnormal outbreaks of infectious diseases; encourage the publication of biological research results to promote of the use of knowledge; and promote scientific contact on biological research, etc.

At the Third Review Conference of 1991, the CBMs were modified and considerably expanded by indirectly encouraging the UN Secretary-General to: investigate into allegations on the use of biological and toxic weapons; involve intergovernmental organizations to implement Article X on the peaceful uses of the biological sciences through the UN; and establish an Ad Hoc Group of Governmental Experts for the identification and examination of verification measures from a scientific and technical standpoint (VEREX).<sup>12</sup> Particularly, the Final

Report of VEREX<sup>13</sup> is worth noting that proposed five combinations as examples to illustrate the evaluation of enhanced capabilities and limitations measures.<sup>14</sup> In the Final Declaration of the Conference of 1991, the Parties agreed to exchange information and data in conformity with standardized procedures and agreed to the UN Secretary-General on an annual basis.<sup>15</sup> Those developments focused also on TCBMs among the Parties and their effectiveness to strengthen the Declaration is evaluated by the UN General Assembly resolution of 13 January 2009.<sup>16</sup> The Final Declaration of the Six Review Conference of 2006 covers the full scope of the convention and effectively prohibits the use of biological weapons by “anyone, anywhere, at anytime for any purpose.”

The most featured outcome was the creation of the Implementation Support Unit (ISU), officially operational since 20 August 2007, in the Geneva Branch of UN Office for Disarmament Affairs (UNODA). The mandates of the ISU are to (1) assist the Chair in the activities mandated by the Six Review Conference; (2) assist States Parties in conducting the activities agreed at the Six Review Conference; (3) receive and distribute CBMs from States Parties; and (4) serve as an information exchange point for national implementation and conduct outreach with signatories and States not party to the Convention.<sup>17</sup> In 2007, 65 States Parties to the Convention reported on national implementation through the ISU<sup>18</sup> disseminating CBMs information.

Thus, although the BWC of 1972 has not

provision for verification, the verification mechanisms are reinforced by 5-year Review Conference, applying CBMs in verification, and establishing ISU. Considering the dual-use nature of the biological agents or toxins difficult to verify, those efforts are worth to be reflected to TCBMs in outer space activities. Particularly, CBMs-oriented verification mechanisms emphasizing transparency measures are ideal to maintain their effectiveness to follow the advanced technology that blurs the definition of biological weapons to control.

## 2. APPLICATION OF CBMS TO SPACE LAW

### 2.1. UN Initiatives

Although the nature of CBMs is not legally-binding but rather politically-binding, the effectiveness of applying CBMs to the PAROS was emphasized by UN General Assembly resolutions 45/55 B of 4 December 1990, 47/51 of 9 December 1992 (11) and 48/74 A of 16 December 1993. The latter two resolutions provided the same contents reaffirming the urgency of taking action on the PAROS in line with the Outer Space Treaty of 1967 by: recognizing the need for the existing legal regime on space activities to be consolidated and reinforced in order to enhance its effectiveness; emphasizing the necessity of further measures for verification; calling upon all States not to take actions contrary to international peace and security as well as promoting international cooperation; requesting that the Conference on Disarmament (CD) prioritize the PAROS issue and complete tasks under its decision in CD/1125

of 13 February 1992; and recognizing the measures to strengthen transparency, confidence and security in the peaceful uses of outer space. Thus, CBMs have become key elements in implementing peaceful uses of outer space.

In 1993, the Report of the UN Secretary-General on "Prevention of an Arms Race in Outer Space Study on the Application of Confidence-Building Measures in Outer Space"<sup>19</sup> was endorsed by the UN General Assembly as a resolution,<sup>20</sup> emphasizing the need for further consideration on CBMs in the international community.

While assessing the potential contribution of CBMs to strengthen international peace and stability, the 1993 Report outlined the common characteristics and applicability of CBMs. The effectiveness of CBMs depends on the extent to which they directly respond to the specific perceptions of uncertainty or threat in a particular situation or environment to ensure the openness, predictability and reliability of the policies of States.<sup>21</sup> Particularly, for the progressive development of a comprehensive network, it needs to enhance the quality and quantity of information exchanged on military activities and capabilities, develop of trust and predictability involving the expansion of the scope of CBMs, and increase the degree of commitment to the process, including unilateral measure on a reciprocity basis.<sup>22</sup> While providing political and psychological effects, it cannot substitute for concrete progress in limiting and reducing armaments.

CBMs are applicable to three categories of States that are: direct participants in space

activities that may be the source of mistrust or tension; affected by military or security policies of those States; and involved in encouraging further development of CBMs. Depending on positive responsibilities or negative constraints, CBMs are divided into three categories: (a) encouraged activities that promote the peaceful uses of space for all humankind, such as scientific exploration and discovery including exchange of information and personnel; (b) permitted activities that encompass the full range of those not explicitly prohibited, though not specifically encouraged, including notification of military behavior; and (c) prohibited activities that forbidden by various elements of the present international legal regime, such as the placement of WMD in outer space.<sup>23</sup> To maintain effectiveness in applying CBMs to space law, it is indispensable to involve key actors such as spacefaring States that have launching capability and space military programmes.

## 2.2. CBMs Elements in Space Law

While the specific feature of the space environment needs to be considered in applying CBMs to outer space, the 1993 Report found some measures that may be recognized as CBM components in the existing UN space treaties.<sup>24</sup> UN space treaties are not specifically dedicated to enhancing transparency in military uses of outer space; hence, CBMs "component" are the provisions that might be allowable to interpreting as CBMs in accordance with the 1993 Report by the UN Secretary-General. Such components in the Outer Space Treaty of 1967 are the provision of an opportunity to observe the flight of space

objects; on-site inspection on the Moon and other celestial bodies; consultations if an activity is potentially harmful to those of others; an obligation to inform the UN Secretary-General of the nature, conduct, locations and results of their activities in outer space; the UN Secretary-General's obligation to disseminate such information immediately and effectively; and the openness of all installations, equipment and space vehicles to representatives of other States Parties, on condition of reciprocity.

CBMs elements are also found in the other space treaties. In the Rescue Agreements of 1968,<sup>25</sup> such CBM components are the notification of the launching authority and the UN Secretary-General in case of accident and the UN Secretary-General's obligation to disseminate the information received. The Liability Convention of 1972<sup>26</sup> provides the solution to questions arising from damage through a Claim Commission; while the Registration Convention of 1975<sup>27</sup> establishes the framework for reporting to the UN Secretary-General information of: name of launching States; appropriate designator; date and location of the launching of objects in outer space; basic orbital parameters, general functional changes in orbital parameters after launch, recovery ate of the spacecraft. The Moon Agreement of 1979<sup>28</sup> requires the Parties to inform the UN Secretary-General of activities concerned with the exploration and use of the Moon on the information including the time, purposes, locations, orbital parameters and duration of each mission to the Moon; to inform the UN Secretary-General of any phenomenon they

discovered in outer space, including the information of manned or unmanned stations on the Moon, on-site inspections by all Parties, consultation in case of a State Party believed that obligations were not fulfilled, and if such consultation does not result in settlement, any Party may seek the assistance of the UN Secretary-General. Furthermore, the ITU Convention of 1992<sup>29</sup> coordinates efforts to eliminate harmful interference between radio stations of different countries.

In sum, the 1993 Report contribute to identify CBMs elements in space treaties that could link the existing States' obligations to TCBMs.

### 3. TCBMS

Although disarmament measures are more essential than TCBMs that serve to prevent war,<sup>30</sup> TCBMs have become an integral part of the international legal and institutional framework supporting military threat reduction and confidence-building among nations. The UN recognizes TCBMs as mechanisms offering the ways to mutual understanding among Parties, to reduce misunderstanding and tensions and to promote a favourable climate for effective and mutually acceptable paths to arms reduction and non-proliferation.<sup>31</sup>

#### 3.1. Concept of "Transparency"

While CBMs aim to assure a partner or even an adversary in a conflicting situation that there is no intentions to solve the conflict by military means,<sup>32</sup> the concept of transparency in mutual

military activities is formed by States' commitment for information-sharing over their primary military factors, such as the size of the armed forces or types of weapons.

The concept of transparency works with three key elements: information, reassurance process, and preventive diplomacy. First, availability of information among participating States directs attention to verification for confidence-building. Second, the central focus of security policy is not on deterrence but reassurance that all Parties will respect the restrictions on military actions. And last, transparency in armaments contributes to the prevention of excessive and destabilizing accumulation of arms and to the reduction of armaments as a tool of preventive diplomacy.<sup>33</sup> In practice, such a concept has already prevailed in arms control over WMD, especially biological weapons,<sup>34</sup> and in regional security cooperation such as Association of South East Asian Nations (ASEAN).<sup>35</sup>

The term "transparency" first appeared in the UN lexicon during the Persian Gulf War from 1990 to 1991 when Iraq armed itself with imported advanced weapons from some of the major military States that participated in the international coalition.<sup>36</sup> Transparency in armaments was endorsed by the UN General Assembly as resolution 46/36 L, resulting in the establishment of the UN Register of Conventional Arms.<sup>37</sup> It is worth to note that the Register serves to enhance transparency in conventional arms proliferation as well as to reinforce Confidence- and Security-Building Measures (CSBMs) that aim for regional security.

### 3.2. Nature of TCBMs

In general, secrecy is a basic factor for traditional military strategies in line with the importance of reconnaissance activities; hence, transparency and openness on a voluntary basis challenge the concept of military-based national security. In the context of post-Cold War strategies, transparency is intended to build confidence between rival States and possible adversaries by reducing the risk of war, opening or strengthening channels of communication, and breaking deadlocks. In line with those measures, accessibility to information and the accuracy of the reported information are the key elements in providing reliable proof that certain behavior and actions do not constitute a threat.<sup>38</sup>

In the field of weapons, armed forces, peace, and security policy, TCBMs have three central goals: accountability, disarmament, and security. The following factors explain the notion of TCBMs: (1) the need for information—availability of confirmed information serves for confidence-building that require verification of information provided by States; (2) confidence-building as a process— an advantage of the concept of confidence-building is in its gradual influence on the perception of security; and (3) transparency as an intermediate step—transparency can be a tool for preventive diplomacy and indirectly contribute to the reduction of armament by building security communities whose function is to prevent conflict and to play a role in bringing about peace and security.<sup>39</sup>

The nature of TCBMs is serving to form

non-treaty-based mechanisms that contribute to mutual understanding, the reduction of misunderstanding and tensions, and the promotion of a favorable climate for effective and mutually acceptable paths to arms reduction and non-proliferation.<sup>40</sup> Not only TCBMs but also any kinds of confidence-building process require the political will of the potential participants to pursue enhancing transparency, which could serve for disarmament and security if confidence is built, mistrust reduced, and miscalculation prevented.<sup>41</sup> However, it is not simple to coordinate the political wills of participants towards disarmament through transparency because security is not the only reason for arms trading but also economic, political, and psychological motives, such as creating jobs in the defense industry, the balance of payment of a country, company profits, saving the cost of scrapping surplus weapons, corruption and kickbacks, prestige and favoritism, and gaining influence in a particular region or country.<sup>42</sup> Therefore, the nature of TCBMs is policy-oriented for linking States' national security to global security that prioritizes the creation of multilateral monitoring mechanisms for compliance with political commitments.

#### 4. APPLICATION OF TCBMS TO SPACE LAW

##### 4.1. UN Resolutions

Since 2005, the UN General Assembly has endorsed resolutions entitled of "Transparency and confidence-building in outer space activities."<sup>43</sup> In 2007, while failing to agree with Russia to draft a UN General Assembly

resolution supporting an expert study of options for voluntary TCBMs, the US sought for an opportunity to engage in a trans-Atlantic dialogue with the EU regarding proposals for a set of TCBMs that focuses on a pragmatic and incremental approach to security in space.<sup>44</sup> Through the resolutions, Member States have pursued considering the applicability of TCBMs to space activities by reviewing political arrangements attempted by the CD PAROS over TCBMs.

Recognizing the goal of TCBMs being in line with the prevention of an arms race in outer space,<sup>45</sup> on 11 February 2009, the UN General Assembly invited all Member States to present concrete proposals to the Secretary-General concerning the resolution 63/68 of 12 January 2009 on TCBMs in outer space activities,<sup>46</sup> which several Member States replied.<sup>47</sup> Argentine pointed out the existing legal system's incapability of averting the danger of the militarization of outer space and emphasized the importance of: providing information of space activities for transparency in outer space; establishing a Group of Governmental Experts on outer space CBMs to consider a UN-based mechanism, system or unified voluntary registry of space activities including notifications. While Cuba calls for information exchange over space activities, Colombia proposed to create a mechanism to verify States' activities in outer space and to consider creating a specially designed system for the detection and management of space debris.<sup>48</sup> Europe emphasized the importance of the code of conduct for outer space activities<sup>49</sup> to strengthen

safety, security and predictability of activities in outer space by limiting or minimizing harmful interference, collisions or accidents in outer space. Lebanon proposed to monitor missile and nuclear activities in outer space to avert the dangers arising from such activities. Ukraine reviewed the current TCBMs which it implements such as: reporting to the Secretary-General on the nature, progress and results of space activities; systematically providing data on space objects turning into space debris; providing the Executive Secretariat of the International Code of Conduct against Ballistic Missile Proliferation.

To pursue those proposed TCBMs, it is necessary to emphasize the importance of establishing non-treaty-based multilateral monitoring mechanisms that ensure the availability of and accessibility to information submitted by Member States.

#### 4.2. TCBMs Elements in Space Treaties

The elements of TCBMs are already found in space treaties concerning peaceful uses of outer space. For example, in the Outer Space Treaty of 1967, Article V require the Parties to immediately inform the other Parties or the UN Secretary-General of any phenomena they discover in outer space, including the Moon and other celestial bodies, which could constitute a danger to the life or health of astronauts. Article VIII requires the Parties to furnish identifying data, on request, about their space objects or components parts found in outer space, on a celestial body or on the Earth in order for the other Party to return them. Article IX requires the Parties to adopt appropriate measures to avoid

harmful contamination on the Earth and in outer space through an appropriate international consultation, which may require information-sharing on the space objects or experiments. Article IX requires the Parties to inform the UN Secretary-General as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities, while the UN Secretary-General needs to prepare to disseminate it immediately and effectively in order to promote international cooperation in the peaceful exploration and use of outer space. Although those provisions were developed not in the context of TCBMs; they could provide basic scheme for information-sharing in line with TCBMs in outer space activities.

Although it is uncertain the extent to which TCBMs contribute to reduce the risk of misunderstandings about outer space activities under international cooperation, they could be the main or integral part of a verification mechanism in the framework of an international treaty prohibiting the deployment of weapons in outer space.<sup>50</sup> In the process of exploring political arrangement over TCBMs, non-legally-binding TCBMs in outer space activities could serve to provide an opportunity to consider risk management at the international level, while TCBMs in outer space also need to develop non-treaty-based mechanisms to ensure their implementation.

#### 4.3. Unilateral TCBM

Some spacefaring States have already taken



unilateral actions in line with TCBMs on a voluntary basis. Examples are: since 2003 Russia has provided web information on scheduled launches and their missions for the international community;<sup>51</sup> in 2004, Russia announced that it will not be the first to deploy weapons in outer space;<sup>52</sup> in 2005, this initiative of Russia was endorsed by the Member States of the Collective Security Treaty of 1992 with similar statements; Norway provides notifications on scheduled launches of rocket probes from its range in the Arctic Ocean; and on 8 June 2006, the UK delegation made a statement at a plenary meeting of the CD that the UK has no intention of deploying weapons in outer space.<sup>53</sup> The UK's statement for "non-space-weapon-faring" is significant and could be evaluated in the same context of Negative Security Assurance (NSA) under the Nuclear-Weapon-Free-Zone (NWFZ) regimes. Those States practice could reinforce TCBMs and be reinforced by establishing multilateral monitoring mechanisms.

### CONCLUSION

The application of CBMs to the law of disarmament and arms control has effectively strengthened treaty-based verification mechanisms; hence, the application of CBMs and TCBMs to space law has attracted attention in the UN. On the other hand, elements of CBMs and TCBMs are already found in the existing space treaties. Considering the lack of verification provision in the Outer Space Treaty of 1967, TCBMs need non-treaty-based monitoring mechanisms to ensure the availability and

accessibility to the information including military uses of outer space. Such mechanisms also could contribute to reinforce unilateral State practice over transparency and confidence-building in outer space activities.

<sup>1</sup> UN Doc. A/48/305, "Study on the application of confidence-building measures in outer space," 15 October 1993, p. 80.

<sup>2</sup> UNGA Res. S-10/2, "Final Document of the Tenth Special Session of the General Assembly," Resolution adopted on the Report of the Ad Hoc Committee of the Tenth Special Session, 30 June 1978, Para. 93.

<sup>3</sup> UNGA Res. S-10/2, *ibid.*

<sup>4</sup> UNGA Res. A/RES/43/78 H, "Guidelines for Confidence-Building Measures," 7 December 1988.

<sup>5</sup> UNGA Res. A/RES/44/116 U, "General and complete disarmament," 15 December 1989.

<sup>6</sup> UNGA Res. A/RES/43/78 H, *supra* note 4.

<sup>7</sup> UNGA Res. A/RES/43/78 H, *supra* note 4.

<sup>8</sup> Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, 10 April 1972, 1015 *UNTS* 163.

<sup>9</sup> Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, 27 January 1967, 610 *UNTS* 205.

<sup>10</sup> BWC/CONF.II/10, Article 11, "Final Declaration of the First Review Conference." Texts are available at: [http://www.opbw.org/rev\\_cons/lrc/docs/final\\_dec/lrc\\_final\\_dec\\_E.pdf](http://www.opbw.org/rev_cons/lrc/docs/final_dec/lrc_final_dec_E.pdf), (last accessed on: 27 January 2009).

<sup>11</sup> Implementing Support Unit, *Biological Weapons Convention: Background Information*, <[http://www.unog.ch/80256EDD006B8954/\(httpAssets\)/699B3CA8C061D490C1257188003B9FEE/\\$file/BWC-Background\\_Inf.pdf](http://www.unog.ch/80256EDD006B8954/(httpAssets)/699B3CA8C061D490C1257188003B9FEE/$file/BWC-Background_Inf.pdf)> (last accessed: 22 September 2008).

<sup>12</sup> Implementing Support Unit, *Biological Weapons Convention: Background Information*, *ibid.*

<sup>13</sup> Summary Report, BWC/CONF\_III/VEREX/8.

<sup>14</sup> Five combinations are: (1) declarations + multilateral information sharing + satellite surveillance + visual inspections; or (2) the combination of surveillance of publications + surveillance of legislation + data on transfers, transfer requests and production + multilateral information sharing + exchange visits; (3) the combination of interviewing + visual inspections, identification of key equipment + auditing + sampling and identification; or (4) declaration + multilateral information sharing + on-site visual inspections; or (5) declarations + information monitoring. See, PARIS, Kristen, "The Expansion of the Biological Weapons Convention: The History and Problems of a Verification Regime," *Houston Journal of International Law*, vol. 24:3, 2001-2002, p. 527.

<sup>15</sup> BWC/CONF.III/23, part II.

- <sup>16</sup> UNGA Res. A/RES/63/88, "Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction," 13 January 2009.
- <sup>17</sup> UN Department for Disarmament Affairs, *The United Nations Disarmament Yearbook 2007*, United Nations Publications, New York, 2008, p. 63. Texts are available at: <http://www.un.org/disarmament/HomePage/ODAPublications/Yearbook/2007/PDF/DY2007-web3.pdf> (last accessed on 10 December 2008).
- <sup>18</sup> UN Department for Disarmament Affairs, *ibid.*
- <sup>19</sup> UN Doc. A/48/305, *supra* note 1, p. 92.
- <sup>20</sup> UNGA Res. A/RES/45/55 B, "Prevention of an Arms Race in Outer Space," 4 December 1990.
- <sup>21</sup> UN Doc. A.48/305, *supra* note 1, p. 61.
- <sup>22</sup> UN Doc. A.48/305, *supra* note 1, p. 62.
- <sup>23</sup> UN Doc. A.48/305, *supra* note 1, p. 64.
- <sup>24</sup> UN Doc. A.48/305, *supra* note 1, pp. 43-45.
- <sup>25</sup> Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, 22 April 1968, 672 *UNTS* 119.
- <sup>26</sup> Convention on International Liability for Damage Caused by Space Objects, 29 March 1972, 961 *UNTS* 187.
- <sup>27</sup> Convention on Registration of Objects Launched into Outer Space, 14 January 1975, 1023 *UNTS* 15.
- <sup>28</sup> Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, 18 December 1979, 1363 *UNTS* 3.
- <sup>29</sup> International Telecommunication Constitution and Convention, 22 December 1992, ITU Secretariat, Place des Nations, CH-1211 Geneva 20, Switzerland.
- <sup>30</sup> MAKAROV, A., "Transparency and Confidence-Building Measures: Their Place and Role in Space Security," *Security in Space: the Next Generation - Conference Report, 31 March-1 April 2008*, UNIDIR, 2008, p. 71.
- <sup>31</sup> MAKAROV, A., *ibid.*, p. 69.
- <sup>32</sup> WULF, H., "Transparency in Armaments and Other Confidence-Building Measures", in: GOLDBLAT, J. (ed), *Nuclear Disarmament: Obstacles to Banishing the Bomb*, I.B.Tauris Publishers, London, New York, 2000, p. 86.
- <sup>33</sup> WULF, H., *ibid.*, p. 87.
- <sup>34</sup> See, SIMS, N.A., *The Evolution of Biological Disarmament*, SIPRI, Oxford University Press, Oxford, 2001, pp. 61-78.
- <sup>35</sup> See, MAK, J.N., "The 'ASEAN way' and transparency in South-East Asia," in: GILL, B. and MAK, J.N. (eds), "Arms, Transparency and Security in South-East Asia," *SIPRI Research Report*, No. 13, 1997, pp. 38-48.
- <sup>36</sup> WULF, H., *supra* note 32, p. 88.
- <sup>37</sup> UNGA Res. A/46/36 L, "Transparency in armaments," 9 December 1991.
- <sup>38</sup> WULF, H., *supra* note 32, p. 95.
- <sup>39</sup> WULF, H., *supra* note 32, pp. 86-87.
- <sup>40</sup> MAKAROV, A., *supra* note 30, p. 69.
- <sup>41</sup> WULF, H., *supra* note 32, p. 94.
- <sup>42</sup> WULF, H., *supra* note 32, p. 94.
- <sup>43</sup> UNGA Res. A/RES/60/66, "Transparency and confidence-building in outer space activities," 8 December 2005; A/RES/61/75, "Transparency and confidence-building in outer space activities," 6 December 2006; A/RES/62/43, "Transparency and confidence-building in outer space activities," 5 December 2007; A/RES/63/68, "Transparency and confidence-building measures in outer space activities," 12 January 2009.
- <sup>44</sup> LARSON, G., "Transparency and Confidence-Building Measures for Outer Space", in: United Nations Institute for Disarmament Research, *Security in Space: The Next Generation*, Conference Report 31 March-1 April 2008, United Nations Publications, 2009, p. 68.
- <sup>45</sup> MAKAROV, A., *supra* note 30, p. 75.
- <sup>46</sup> UNGA Res. A/RES/63/68, "Transparency and confidence-building measures in outer space activities," 12 January 2009.
- <sup>47</sup> UN Doc. A/64/138, "Transparency and confidence-building measures in outer space activities," 15 July 2009.
- <sup>48</sup> UN Doc. A/64/138, *ibid.*
- <sup>49</sup> UN Doc. A/62/114/Add.1, "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", Transparency and confidence-building measures in outer space activities, Report of the Secretary-General, 17 September 2007, pp.5-8.
- <sup>50</sup> MAKAROV, A., *supra* note 31, p. 73.
- <sup>51</sup> VASILIEV, A.V. and KLAPOVSKY, A.A., "Transparency and Confidence-Building Measures in Outer Space," *Building the Architecture for Sustainable Space Security*, Conference Report, 30-31 March 2006, UNIDIR, 2006, p. 140.
- <sup>52</sup> VASILIEV, A.V. and KLAPOVSKY, A.A., *ibid.*
- <sup>53</sup> MAKAROV, A., *supra* note 30, p. 74.