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IISL.4.-93-834

The Notification Principle in the 1992'NPS Resolution

*Dr. Mahulena Hošková**

Abstract

Resolution 47/68 of the UNO General Assembly of December 14, 1992 contains instructions for launching states in case of malfunctioning of nuclear-powered space objects. Among the most important rules figures the notification principle, which applies to the re-entry phase of a space object or the risk of such re-entry; the " prior to the launch" notification amalgamated with the safety assessment principle. Despite of the undoubtful success of this new step in the development of space law, some questions remain unresolved: These include the rhythm of the review and revision of the set of rules, as well as their relation to the pertinent multilateral treaties in force, accepted in 1986 within the framework of IAEA.

I. Introduction

On December 14, 1992, one of the most important steps in the work of the Legal Sub-Committee of the COPUOS was successfully finalized: the General Assembly adopted without vote its Resolution 47/68 on the Set of Principles Relevant to the Use of Nuclear Power Sources in Outer Space , which contains in eleven paragraphs significant instructions for one aspect of the behaviour of the launching states in case of malfunction of their nuclear-powered space objects.

The elaboration of the document took more than one decade, due to the rather complicated development[1] starting from the confrontational positions of the period of the cold war, taking into account the strategic relevance of all nuclear installations and

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*JU Dr., CSc. (Prague), Member IISL; Research Fellow of Max-Planck-Institute for Comparative Public Law and International Law, Heidelberg.

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underlined by the accident of the Soviet Cosmos 954 satellite in September 1977[2], and ending with the decline of the military role of space technology in connection with the political development in Middle and Eastern Europe at the end of the 1980ies[3]. In addition to this political situation, the fast technical development had also to be taken into account[4], since it already used to be a *conditio sine qua non* in the sphere of the legal regulation of outer space activities.

One of the major impacts for the intensification of the interest of states in a more sophisticated international protection regime against potential nuclear dangers was undoubtedly the Chernobyl accident of April 1986. It clearly proved, that an essential prerequisite for each effective anti-radiation measure is the immediate and subsequently continuous information of the states concerned and the international community as well. The logic of this process made the duty of notification, together with the principle of safety assesment, the nucleus of the elaboration of the NPS's resolution.

II. The Notification Rule under the Set of Principles

Speaking about notification in relation to the use of NPS's in general, account has to be taken of its various consecutive steps, as they were also reflected during the preparatory work within the framework of both Sub-committees of COPUOS, namely: the prior to launch notification, the notification as to the presence of a nuclear power source on board of a space object, and the notification of re-entry of such space objects. Two of the first of these steps amalgamated with the stipulation of the safety assessment; the re-entry item became a separate paragraph under the set of principles. Its text was finished in 1986: The Report of the Chairman of the Working Group on Agenda item 3 of the COPUOS Legal Sub-Committee at its Twenty-fifth Session contains an information, that "...consensus had been recorded on the text(s) of the draft Principle(s) 5 ... on "Notification of Re-entry"..."[5].

The scope of the rules in question covers those sources, which are defined in the preamble as "...devoted to the generation of electric power on board space objects for non-propulsive purposes, which have characteristics generally comparable to those of systems used and missions performed at the time of the adoption of the Principles." This means that the possible future use of NPS's for propulsive purposes was left outside the scope of the regulation; it may, however, be later regulated, if necessary, either by a special normative act, or through the revision of the present set of principles[6].

The subject of the Notification principle, as it appears in the adopted document (Principle 5) is "any state launching a space object with nuclear power sources on board". According to Principle 2 (Use of terms), the term "launching state" means the state which exercises jurisdiction and control over a space object with nuclear power source on board at a given point in time relevant to the

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principle concerned." This definition of the "launching state" differs substantially from the notion contained in Art.1 c of the Liability Convention[7], which for the purposes of this Convention defines such a state as "...a State which launches or procures the launching of a space object, as well the State from whose territory or facility a space object is launched."[8] The NPS's principles limit the application of this broader understanding to Principle 9, regulating the liability and compensation for any damage caused by such space objects or their component parts.

The addressees of the notification obligation are, according to the set of principles, at the first place "the states concerned", which should probably be understood to mean any State, whose territory, including its air-space, may be affected by the radioactive material eventually returning to the earth; the same information as given to the states concerned, shall be also transmitted to the Secretary-General of the United Nations.

The contents of the information concerned is defined in Principle 5, para. 1 a and b.: As *System Parameters* (a), such information shall include the name of the launching state or states, the international designation of a space object, date and territory of or location of launch, information required for best prediction of orbit lifetime, trajectory and impact region, as well as data concerning the general function of the spacecraft; "*Information on the radiological risk of nuclear power source*" (b) includes the data concerning the type of nuclear power source and the probable physical form, amount and general radiological characteristics of the fuel and contaminated and/or activated components likely to reach the ground[9].

The notification obligation of the launching state *arises* in the case of cumulative existence of two preconditions: The first hypothesis for the relevant duty is "...the event the space object is malfunctioning"; the second one is the fact of "the risk of re-entry of radioactive material to the Earth". The time-criterion for providing of the information could hardly be other than subjective: The state is obliged to inform, "...as soon as the malfunction has become known" (Principle 5 para. 2). The original information under the notification principle (Principle 5) must be updated; criteria for the frequency of this updating are the approaching re-entry of the object in the dense layers of the atmosphere of the earth and the necessity to provide for the opportunity of the international community "...to plan for any national response activities deemed necessary."

The original idea of the notification "prior to the launch", as already expressed in the materials of the Legal Sub-Committee of 1989[10], was abandoned; the launching state is nevertheless already at this stage under the obligation to make publicly available the results of the safety assesment, as well as an indication of the approximate intended time-frame of the launch under Principle 4 (Safety Assessment). In comparison to this principle, the Consultation principle (Principle 6) extends this obligation to include also the

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provision of information for the same phase of the flight of the object with the NPS on board as does the notification duty under Principle 5: The states providing information in acordance with the notification principle shall respond to requests for further information or consultation sought by other states; insofar applies, however, the rather vague criterion "...as far as reasonably practicable...". Nonetheless, information should be provided "promptly"; the group of addressees is limited to the "other" (than concerned) states.

Using the term "obligation" or "duty" of the states concerned, one can hardly avoid to address the question of the degree of their legal force[11] : Firstly, being a resolution of the UN General Assembly, the character of the norms contained in the set of principles, is undoubtedly at least recommendatory[12]. Secondly, as it was rightly stated with regard to three previous declarations of principles adopted in the framework of the Legal Sub-Committee (the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space of 1963, the 1982 Principles Governing Direct Television Broadcasting, and the Principles of Remote Sensing of 1986), also this resolution may be considered as an expression of "...a legal conviction of all members of the world organisation, or an overwhelming majority thereof, concerning their particular subject matter "[13].

Interesting in this context is the rule of Principle 11 (Review and Revision) of the NPS's document, requiring, that "...these principles shall be reopened for revision by the Committee on the Peaceful Uses of Outer Space no later than two years after their adoption." The shortening of the time-period from the usual ten years to only two years takes into account the rapidly changing "legal conviction of all members of the world community..." in regard of the "particular subject matter". This clearly reflects the difficulties in balancing the stabilizing role of these principles with the on-going technical development, which is also underlined even in one provision of the preamble stating that "...this set of Principles will require future revision in view of emerging nuclear power applications and of evolving international recommendations on radiological protection." On the 32nd session of the Legal Sub-Committee, some delegations expressed, however, the view that, "in order not to weaken the impact of the principles, which were already 'soft law', an incremental approach to revising them should be considered, whereby the Working Group would not reopen discussion on the principles already adopted, but would rather attempt to supplement those principles with new provisions if necessary."[14]

For an evaluation of their place in the international legal system, it might be helpful to put them in relation with other, however, doubtlessly legally binding norms regulating the same or similar subject-matters, ie. the notification of the risk of the re-entry of a malfunctioning nuclear power source to the earth.

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III. Treaty Obligations Related to the Notification of the NPS's

The legal impact of the rules of the Principles Relevant to the Use of Nuclear Power Sources in Outer Space can be derived from the validity of the treaty provisions of a series of international documents, the highest legal rank of which have the Charter of the United Nations and the Outer Space Treaty of 1967[15], as confirmed in Principle 1 of the set. This means, inter alia, that states launching a space object with nuclear power source(s) on board are obliged under Article XI. of the Outer Space Treaty "...to inform the Secretary-General of the United Nations 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 their space activities.

More detailed is the notication obligation binding upon the States-Parties to the 1975 Registration Convention[16]: The "States of Registry" have the duty "...to furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry (Art.IV):..." Among the information to be given are of highest importance the data concerning basic orbital parameters, including the nodial period, inclination, apogee and perigee (1 d), facilitaing the prediction of the trajectory of a malfunctioning object with a NPS on board, which is only generally covered by the provision of Principle 5 of the 1993 NPS's set, demanding "...information required for the best prediction of orbit lifetime, trajectory and impact region" (1 b). On the other hand, compared with the just mentioned treaty provision, the rule of the NPS's Principles is more precise as regards the timing of the information duty: As said above, such information shall be given "...in the event this space object is malfunctioning with the risk of re-entry of radioactive materials to the Earth", "...as soon as the malfunction has become known."; the Registration Treaty demands the information to be given according to an even more subjective criterion, namely "as soon as practicable".

The rule of para. 2 of the Registration Convention stipulates that each state of registry may, from time to time, provide the Secretary-General of the United Nations with additional information concerning space objects carried on its registry. As pointed out on, e.g., the 28th session of the Legal Sub-Committee of the COPUOS[17], that provision did not obligate states to furnish information on the presence of nuclear power sources on board of space objects, although such information could be voluntarily given[18].

The question arose whether the notification principle under the set of NPS rules in effect amended the 1975 Registration Convention, which the General Assembly had recently reviewed without recommending any amendments thereto. Without going into details, one tends to think that the NPS Principles bring additional rules to the 1975

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Registration Convention, which - being of only recommendatory character - may not be considered amend the legally binding international treaty.

Even more complicated questions result from the simultaneous existence of the NPS Principles and two international multilateral treaties, concluded as a reaction to the Chernobyl accident, namely the 1986 Convention on Early Notification of a Nuclear Accident, and the 1986 Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency[19] ,the first of which relates directly to the NPS notification principle: Article 1 of the Early Notification Convention defines the scope of this treaty as applicable "...in the event of any accident involving facilities or activities of a State Party or of persons or legal entities under its jurisdiction or control,...from which a release of radioactive material occurs or is likely to occur and has resulted or may result in an international transboundary release that could be of radiological safety significance for another State" (para. 1); among these facilities and activities are (a) any nuclear reactors wherever located, as well as (f) the use of radioisotopes for power generation in space objects.

Both legal regimes - the one approved in the framework of the IAEA and the one at the UN COPUOS - differ in some aspects[20]: In comparison with the NPS Notification Principle, the Early Notification Convention allows for wider discretion of the State Party concerned as regards the decision whether the release of radioactive material "...is likely to occur" or whether it "...may result in an international transboundary release that could be of radiological safety significance for another State." There is also a difference as to the addressees of the notification: Article 2 of the Convention requires to inform "...those States which are or may be physically affected as specified in article 1 and the Agency...", but it does not mention the UN Secretary-General whereas the notification rule of the NPS' principles requires to notify States concerned and the UN Secretary-General. The scope of the information to be provided is not identical either: Among the data mentioned in Article 5 of the Convention are some technical characteristics not required under the 1993 Notification Principle; on the contrary, the Convention does not demand the information "...required for best prediction of orbit lifetime, trajectory and impact region".

As a means to secure the consistency of both regimes, it was several times suggested in the framework of COPUOS to insert separate paragraphs indicating the relationship between these regimes[21]. The 1988 Canadian working paper[22] contains e.g. the draft of an addendum to the Notification principle, stating that "...nothing in this principle shall affect the reciprocal rights and obligations of States Parties to the Convention on Early Notification of a Nuclear Accident, done at Vienna on 26 September 1986, or of States parties to bilateral or multilateral agreements concluded in accordance with the object and purpose of the Convention. In event a space

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object with nuclear power sources on board is malfunctioning with a risk of re-entry of radioactive materials to the Earth, States Parties to the Convention or to such bilateral or multilateral agreements shall apply this principle in addition to the Convention or agreements." The opponents of this idea, however, stated that it was unnecessary to re-open the drafting of the Notification principle, or to amend it, even if it was desirable. At the end, the idea to clarify the relation between these (at least partly) conflicting regimes, was abandoned with the exception of the addition of the general paragraph on the applicability of international law. The suggestion to prepare a comparative study of the two Conventions and of the draft of the respective principles by the Secretariat of the COPUOS was eventually refused with similar arguments.

IV. Conclusion

From a formal point of view, one tends to agree with the position that "...adoption of an additional multilateral legal document, containing detailed provisions on the notification of accidents with space objects with NPS, seems to pose serious legal and practical problems"[23]. On the other hand, there exists also the opinion that, notwithstanding the fact that an important body of rules already exists (the Conventions), these rules are "...very general, incomplete and badly adapted to the specific hazards which the use of nuclear energy in space already entails for man and the environment"[24].

In such a situation, it might indeed be useful to embark on further studies in order to clarify more precisely which obligations states have incurred under these two different international legal regimes, with a view to eventually harmonize these two systems.

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1 As to the development of this item within the UN see e.g. *E. Galloway*, United Nations Consideration on Nuclear Power for Satellites, in: Proceedings of the 22nd Colloquium on the Law of Outer Space, 1979, p. 131 - 139.

2 See *E. Galloway*, Nuclear Powered Satellites: The USSR Cosmos 954 and the Canadian Claim, The Acron Law Review, July 1978, p. 401 - 415; *B.A. Hurwitz*, Reflections on the Cosmos 954 Incident, in: Proceedings of the 32nd Colloquium on the Law of Outer Space, 1989, p. 348 - 357.

3 This statement might, however, be questioned already. According to a Russian source, the Russian government is presently discussing the document "Urgent Measures in State-Support of Space Activities of the Russian Federation in 1994 and for the period until the year 2000", according to which ful financial and capacity support should be given to the Russian military space projects; see Rossiskaya Gazeta of 13 November 1993, p. 1.

4 See e.g. *G. M. Reck*, *R. Rosen*, *G. I. Bennett*, *A. D. Schnyer*, Technology and Applications of Space Nuclear Power, AIAA-93, 1993, p. 1 - 12; *R. M. Zubrin*, Nuclear Power and Propulsion for Mission to Mars and the Outer Solar System, AIAA-93-1814, 1993; *L. H. Caveny*, *F. M. Curran*, *J. R. Brophy*, BMDO Electric Space Propulsion Program, AIAA 93-1934, 1993.

5 See U.N.Doc. A/AC.105/370 and Corr.1, para 36 and annex II, paras. 5.1-5.5, where it appears as principle 3.

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6 See Principle 11: Review and Revision.

7 Convention on International Liability for Damage Caused by Space Objects, 1 September 1972, in: The United Nations Treaties on Outer Space, New York, 1974, p. 13 - 21.

8 As to liability in space law, including the case of the Cosmos 954, see e.g. *S. Gorove*, Developments in Space Law, 1991, p. 223 - 243.

9 As to the scope of the Notification Principle see *A. D. Terekhov*, Nuclear Power Sources in Outer Space - Problem of Notification, in: Proceedings of the 27th Colloquium on the Law of Outer Space, 1984, p. 218 - 224.

10 See U.N.Doc. A/AC.105/430 of 26 April 1989.

11 As to the discussion on the form of the NPS's document see *V. Kopal*, The Use of Nuclear Power Sources in Outer Space: A New Set of United Nations Principles?, Journal of Space Law, Vol.19, 1991, Nr.2, p. 121.

12 As to the role of the GA resolutions in space law see e.g. *C. Q. Christol*, Space Law: Past, Present, and Future, 1991, p. 493; *K. H. Böckstiegel*, Weltraumrecht, FAZ 20 June 1989, Sonderbeilage; *I. Diederiks-Verschoor*, Global Use and Regulation of Space Activities, McGill University Centre for Research of Air and Space Law (ed.), Symposium on "Space activities and Implications", p. 151 - 162.

13 See *V.Kopal*, The Role of the United Nations Declarations of Principles in the Progressive Development of Space Law, Journal of Space Law, Vol.16, Nr.1, 1988, p. 19.

14 See U.N.Doc. A/AC.105/544 of 15 April 1993, p. 12.

15 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies of 27.1.1967.

16 Convention on Registration of Objects Launched in Outer Space, 1975.

17 See U.N.Doc. A/AC.105/430 of 26 April 1989, p. 17.

18 As to the relation of both regimes in practice see e.g. *J. C. Clayton*, Nuclear Power Sources for Outer Space: Political, Technical and Legal Considerations, in: Proceedings of the 32nd Colloquium on the Law of Outer Space, 1989, p. 287.

19 Convention on Early Notification of a Nuclear Accident of 26 September 1986, Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency of 27 September 1986.

20 See *A.D. Terekhov*, The IAEA Conventions on Nuclear Accidents and the Consideration of the Use of Nuclear Power Sources in Outer Space in the Legal Sub-Committee in COPUOS, Proceedings of the 30th Colloquium on the Law of Outer Space, 1987, p. 403 - 410.

21 See e.g. U.N.Doc. A/AC.105/411 of 8 April 1988, p. 17.

22 U.N.Doc. A/AC.105/C.2/L.154/Rev.4 of 28 March 1988.

23 See *Terekhov* (*supra* note 20), p. 409.

24 See *S. Courteix*, The Legal Regime of Nuclear Power Satellites: A Problem at the Cross-Roads of Nuclear Law and Space Law, Proceedings on the 34th Colloquium on the Law of Outer Space, 1991, p. 122.