

For participants only
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Committee on the Peaceful

Uses of Outer Space

Scientific and Technical Subcommittee

Forty-third session

Vienna, 20 February-3 March 2006

Item 9 of the provisional agenda*

Use of nuclear power sources in outer space

**Joint United Nations/International Atomic Energy
Agency technical workshop on the objectives, scope
and general attributes of a potential technical safety
standard for nuclear power sources in outer space
(Vienna, 20-22 February 2006)**

**Overview of implementation plan options 1 and 3, including
sub-options, as specified in the note by the Secretariat of
18 March 2005 (A/AC.105/L.254/Rev.2)**

**Working paper submitted by the United States of America on
behalf of the Working Group on the Use of Nuclear Power
Sources in Outer Space**

Note by the Secretariat

1. In accordance with paragraph 16 of General Assembly resolution 60/99 of 8 December 2005, the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space will organize, jointly with the International Atomic Energy Agency, a technical workshop on the objectives, scope and general attributes of a potential technical safety standard for nuclear power sources in outer space, to be held in Vienna from 20 to 22 February 2006.

* A/AC.105/C.1/L.283.

V.05-90477 (E)



* Reissued for technical reasons.

2. The working paper contained in the annex to the present document was prepared for the joint technical workshop in accordance with the indicative schedule of work for the workshop, as agreed by the Working Group on the Use of Nuclear Power Sources in Outer Space during the intersessional meeting held in Vienna from 13 to 15 June 2005 (A/AC.105/L.260).

Annex I

Overview of Implementation Plan Options 1 and 3, including Sub-Options, as Specified in the Document A/AC.105/L.254/Rev.2

**Working paper submitted by the United States of America on
behalf of the Working Group on the Use of Nuclear Power Sources
in Outer Space¹**

I. Topics

- Background.
- Format, abbreviations and general assumption for overview of options.
- Option 1.
- Option 3A.
- Option 3B.
- Option 3C.

II. Background

- Draft “options” developed by Working Group on the Use of Nuclear Power Sources in Outer Space (WG NPS) at February 2004 STSC Meeting.
- Options developed to support Working Group discussions of potential implementation options for establishing “*an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source applications in outer space*”.
- Two major implementation options were defined:
 - Option 1: Joint STSC/IAEA definition of a safety framework;
 - Option 3: Multilateral Group definition of a safety framework;
 - Option 3A: IAEA-led review of framework;
 - Option 3B: Joint STSC/IAEA-led review of framework;
 - Option 3C: IAEA Technical Expert Participation with Multilateral Group.
- Option 2, a Joint STSC/IAEA Workshop, was determined at the February 2005 STSC meeting to be an intermediate step that supported both Option 1 or Option 3.

¹ The working paper is reproduced in the form in which it was received.

III. Format, abbreviations and general assumption for overview of options

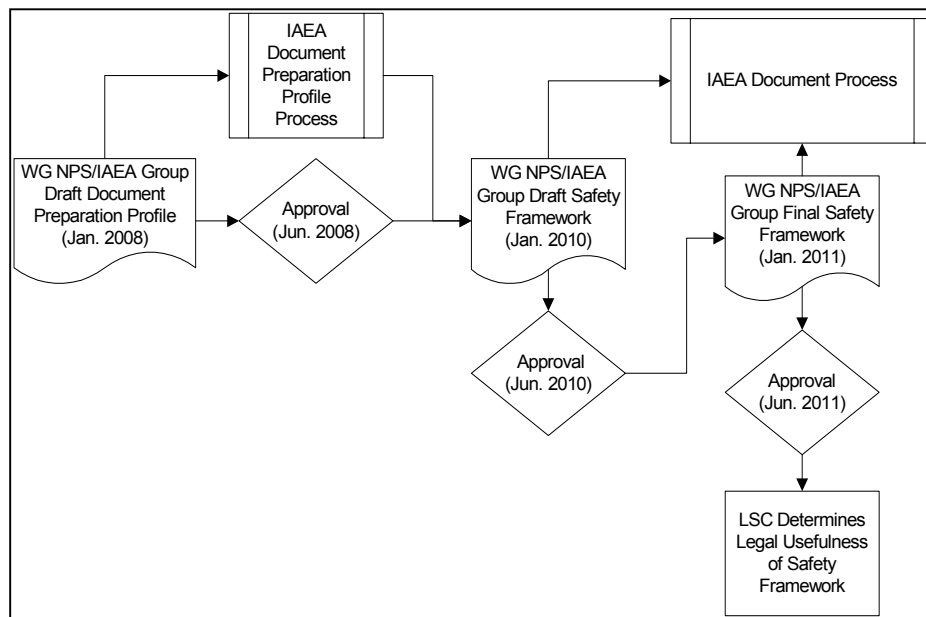
- Format.
 - Description.
 - Key assumptions.
 - Participants.
 - Completion date.
- Abbreviations.
 - STSC – the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space.
 - WG NPS – Working Group on the Use of Space Nuclear Power Sources of the Scientific and Technical Subcommittee.
 - LS – the Legal Subcommittee of the Committee on the Peaceful Uses of Outer Space.
 - GA – United Nations General Assembly.
 - CSS – International Atomic Energy Agency (IAEA) Committee on Safety Standards.
- General Assumption.
 - Succession of WG NPS, STSC, LS and GA approvals occur in a timely manner.

IV. Option 1: joint programme of work with IAEA

- Description.
 - WG NPS and IAEA jointly develop a safety framework using the standard IAEA document preparation process.
 - The full COPUOS Committee approves the development plan for the framework and the resulting framework.
- Key Assumptions.
 - WG NPS members participating with the IAEA-selected group of experts meet on a schedule and at a location mutually agreed to by both groups.
 - Deliberations and working meetings held without interpretation.
 - IAEA “Document Preparation Profile” (i.e., the plan for developing the safety framework) and draft/final versions of the safety framework are

subject to the standard IAEA document review process, but on a schedule consistent with the regular meetings of the STSC and full COPUOS Committee.

- Participants.
 - Interested WG NPS members.
 - IAEA-selected experts.
- Completion Date.
 - Final Safety Framework Approved by COPUOS – June 2011.

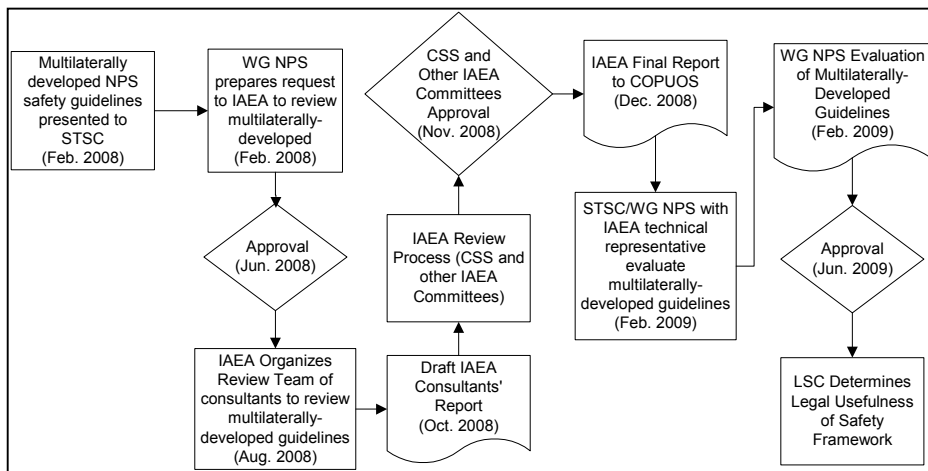


Scheme 1. Option 1

V. Option 3A: IAEA technical review provided as an input to the WG NPS

- Description.
 - IAEA, at the request of COPUOS, evaluates space NPS guidelines developed by a multilateral group.
 - STSC/WG NPS evaluates the multilaterally-developed guidelines based on the IAEA evaluation.
- Key Assumptions.

- Multilateral group forms after the STSC recommends implementation of Option 3A, and prepares and submits guidelines to STSC in one year.
- No IAEA member state or commission raises an issue regarding the consistency of standards generated by different international bodies.
- Participants.
 - Interested WG NPS members.
 - IAEA-selected experts.
- Completion Date.
 - Evaluation of multilaterally-developed guidelines approved by COPUOS – June 2009.

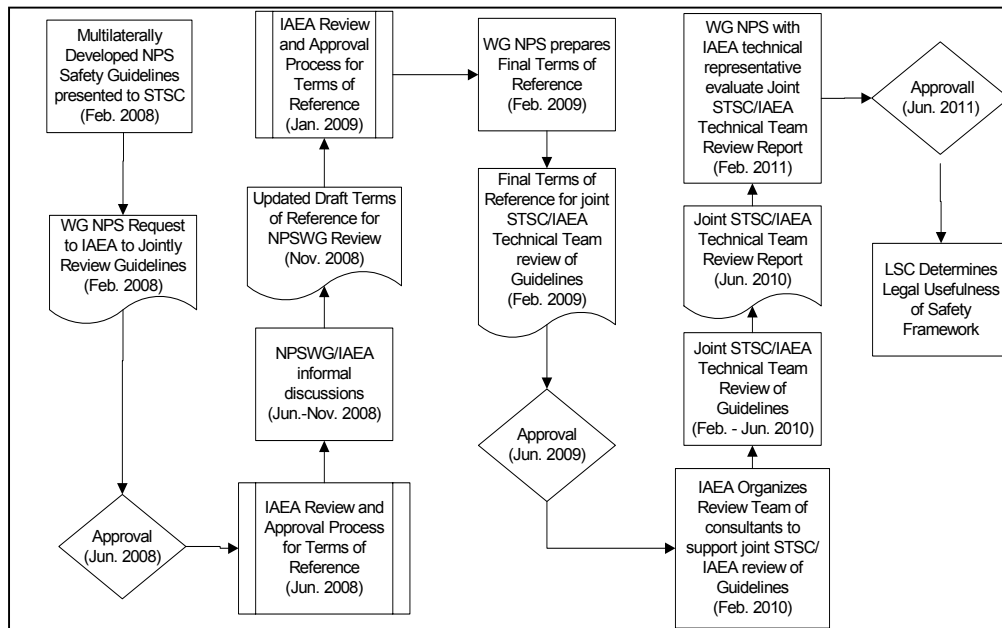


Scheme 2. Option 3A

VI. Option 3B: joint STSC/IAEA technical review of the multilateral group guidelines

- Description.
 - STSC/WG NPS and IAEA jointly conduct a technical review of space NPS guidelines developed by a multilateral group.
 - IAEA uses its standard review and approval process for approving the *terms of reference* for conducting the joint review.
- Key Assumptions.
 - Multilateral group forms after the STSC recommends implementation of Option 3B, and prepares and submits guidelines to STSC in one year.
 - No IAEA member state or commission raises an issue regarding the consistency of standards generated by different international bodies.

- Any changes made by the STSC/WG NPS in the IAEA-approved *terms of reference* for the joint evaluation fall within the purview of the IAEA representative to the WG NPS to approve.
- Participants.
 - Interested WG NPS members.
 - IAEA-selected experts.
- Completion Date.
 - Evaluation of multilaterally-developed guidelines approved by COPUOS – June 2011.

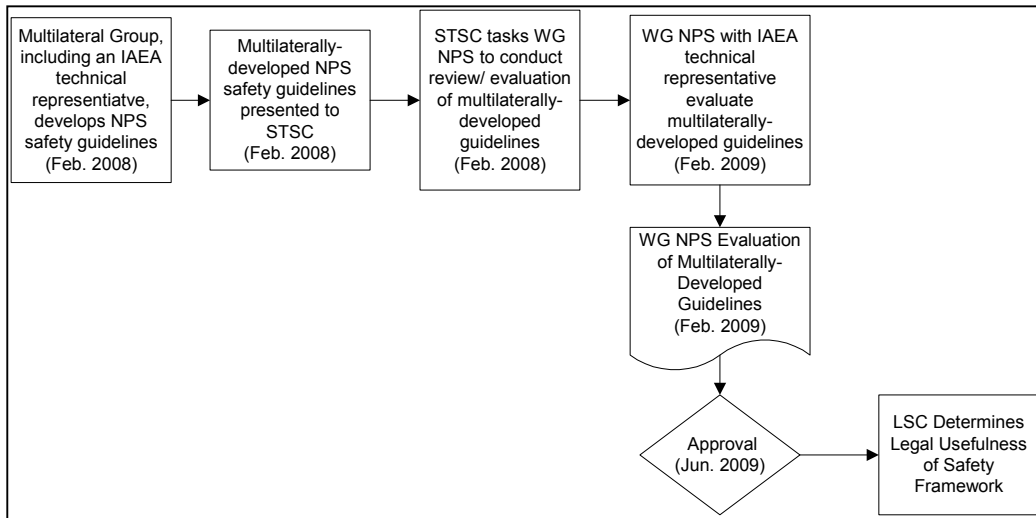


Scheme 3. Option 3B

VII. Option 3C: IAEA technical expert participation in the multilateral group

- Description.
 - IAEA technical representative participates jointly with a multilateral group in developing space NPS guidelines.
 - WG NPS, along with the IAEA technical representative that participated in the development of the guidelines, evaluates the guidelines.
 - Full COPUOS approves the results of the evaluation.
- Key Assumptions.

- Multilateral group forms after the STSC recommends implementation of Option 3C, includes participation of an IAEA technical representative, and prepares and submits guidelines to STSC in one year.
- Participants.
 - Interested WG NPS members.
 - IAEA-selected experts.
- Completion Date.
 - Evaluation of multilaterally-developed guidelines approved by COPUOS – June 2009.



Scheme 4. Option 3C