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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 NPS Working Group Document  
A/AC.105/L.253/Rev.2 “Outline of objectives, scope and  
attributes for an international technically based framework  
of goals and recommendations for the safety of planned and  
currently foreseeable nuclear power source applications in  
outer space”**

**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.

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

V.05-90471 (E)



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 NPS Working Group Document A/AC.105/L.253/Rev.2 “Outline of objectives, scope and attributes for an international technically based framework of goals and recommendations for the safety of planned and currently foreseeable nuclear power source applications in outer space”**

**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<sup>1</sup>**

#### **I. Introduction and background**

- A multi-year work plan was adopted by the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space in 2003.
  - Focus: to develop of an international technically based framework of goals and recommendations for the safety of nuclear power source applications in outer space.
- Item (b) of the work plan for the year 2005:
  - Prepare a final outline of the objectives, scope and attributes for an international technically based framework.
- Outline (A/AC.105/L.253/Rev.2) represents consensus reached by the Working Group on the Use of Nuclear Power Sources in Outer Space of the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (NPS Working Group).
- Outline was accepted by the Subcommittee in March 2005.

#### **II. Framework objectives**

- Overarching objectives for a safety framework:
  - Present a set of general guidelines relating to the safety aspects of the launch and operating life cycle of nuclear power sources for space applications;
  - Reflect international consensus on the appropriate level of safety that should be achieved for various phases of the nuclear power sources

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<sup>1</sup> The working paper is reproduced in the form in which it was received.

(NPS) life cycle.

- Specific objectives identified by the NPS Working Group were that a framework:
  - Be technically based;
  - Provide high-level guidance;
  - Provide a technical foundation for the development of national standards;
  - Allow national programmes flexibility in adapting such standards to specific nuclear power source applications and national organizational structures.

### **III. Framework scope**

- NPS life cycle phases to be addressed in safety framework:
  - design;
  - launch;
  - operation;
  - other relevant phases of the life cycle.
- Framework could address unique aspects of:
  - development;
  - manufacturing;
  - transportation.

However, these phases of the NPS life cycle are largely addressed in existing national and international standards relating to ground-based nuclear installations and activities.

### **IV. Framework attributes**

- General and qualitative in nature.
- Technically valid.
- Relatively independent of evolving technology.
- Reflect broad international consensus.
- Be understandable to a broad audience – not just specialists in nuclear science and technology.
- Could be modelled after the format and structure of an International Atomic Energy Agency Safety Fundamental.

