Consultants’ Meeting
of the INPRO Case Study for the Deployment of a Factory Fuelled
Small Modular Nuclear Reactor (SMR)

IAEA Headquarters
Vienna, Austria

13-17 June 2016

Ref. No: I4-CS-53587

Terms of Reference

A. Background

The International Project on Innovative Nuclear Reactors and Fuel Cycles (INPRO) was established in 2000 - as an International Atomic Energy Agency (IAEA) flagship project, through a General Conference resolution - with the goal of ensuring a sustainable nuclear energy supply to help meet 21st century global energy needs.

In the 2016-2017 budget cycles, activities in four tasks will be implemented: Task 1: "Global scenarios"; Task 2: "Innovations"; Task 3: "Sustainability Assessment and Strategies"; and Task 4: "Dialogue" and Outreach".

One of the INPRO activities in the biennium 2014-2015 was investigating the legal and institutional aspects of transportable nuclear power plants (TNPP). The focus of this activity was on TNPP deployments in countries other than the country of origin. A transportable nuclear power plant is defined as a factory-manufactured, transportable and/or re-locatable nuclear power plant, which, when fuelled is capable of producing final energy products like electricity, process heat, etc. The TNPP is physically transportable, but is not designed to either produce energy during transportation or provide energy for the transportation itself. When such reactors are fuelled and tested at the factory, their export deployment may face specific issues in the international context related to the compliance with
international legal norms and the IAEA safety standards and security recommendations in the periods of fuelled reactor transportation.

There is renewed interest in Member States in the development and application of Small Modular Nuclear Reactors (SMR). They have a potential to allow countries with smaller electrical grids and lower economic means to develop nuclear power and reduce their carbon dependence, for sustainable development. SMRs are an efficient path for innovation in design, technologies, safety, security and safeguard, and even industrialization, industrial organization or business models. A preliminary study addressing the specific regulatory challenges of Transportable SMR was performed in 2008-2013. It resulted in the Nuclear Energy Series Technical Report N0 NG-T-3.5.

The overall objective of the project is to:

- To examine, in details, legal and institutional issues for export deployment of a TNPP with a factory fuelled and tested reactor and to investigate other aspects of transportable and modular reactor facilities.

To achieve this objective, the Collaborative Project will:

- Fill the gaps identified in the international nuclear laws to cover the operational cycle of factory fuelled SMRs and all its life cycle, including the construction phase and the training;
- Fill the gaps identified regarding the fuel loaded NPPs transport and the international law, including cases of fuel loaded SMR transport through the territorial seas and territories of a third country. International Maritime Organization/IAEA agreements, recommendations and documents would be reviewed and non-covered issues will be solved;
- Propose solutions in relation with the control supervision and its continuum over all the life-cycle, both in relation with Utilities and Authorities;
- Determine the possible responsibilities schemes between the authorities and any stakeholders, including emergency crisis and civil liability;
- Determine the possible adapted Licensing process.

The following Member States are involved in the particular project tasks as participants and observers: Armenia, Canada, France, Finland, Indonesia, Romania, Russia and USA.

The collaborative project "Case Study for Deployment of Factory Fuelled SMR" will be implemented as an activity under Task 2 ("Innovations") under the INPRO Biennium Plan 2016-2017.

According to the minutes of recent Consultants’ Meeting (CM) of the INPRO Collaborative Project “Case Study for the Deployment of a Factory Fuelled Small Modular Nuclear Reactor (SMR)” from 26-29 January 2016, an extended CM with external experts (stakeholders) has been agreed to be organized on 13-17 June 2016. This extended CM will cover following topics: Legal / Regulation / Liabilities / Responsibilities / Safety / Licensing Process.

B. Meeting Objectives

The objectives of this meeting are to:

1. Gather additional information from the external experts in areas Legal / Regulation / Liabilities / Responsibilities / Safety / Licensing Process to address the differences between
conventional NPP life–cycle and related with the Factory Fuelled Transportable Nuclear Unit (TNU) / Nuclear Power Plant (TNPP). Experts will present their views in subject areas.

2. To prepare next draft of the PART 2 of the project report;
3. To prepare next extended CM, which should cover following topics: Environment / Emergency Preparedness / Safeguards / Physical Protection.

C. Expected Output

1. The external experts’ presentations (reports) on following topics: Legal / Regulation / Liabilities / Responsibilities / Safety / Licensing Process.
2. A draft of the PART 2 of the project report.
3. A draft of the Terms of Reference (ToR), a draft of the agenda and possible dates of the second extended CM.

D. Participants

Armenia, Canada, China, Finland, France, Indonesia, Romania, Russian Federation and USA.

E. Working Language

The working language of the meeting will be English with no interpretation provided. All communications, abstracts and papers must be submitted in this language.

F. Venue

The assignment will commence on Monday, 13 June 2016 at 9:30 a.m. in Room VIC MOE13, Building M of the Vienna International Centre (VIC). Meeting participants are requested to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the meeting on the first day, in order to allow sufficient time for issuing of grounds passes, which are necessary for official visitors to the VIC.

G. Visas

Participants who need a visa for entering Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as early as possible. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.
H. Organization

Official correspondence with regard to the technical aspects of the meeting should be addressed to the Scientific Secretaries:

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