**SMR REGULATORS' FORUM**
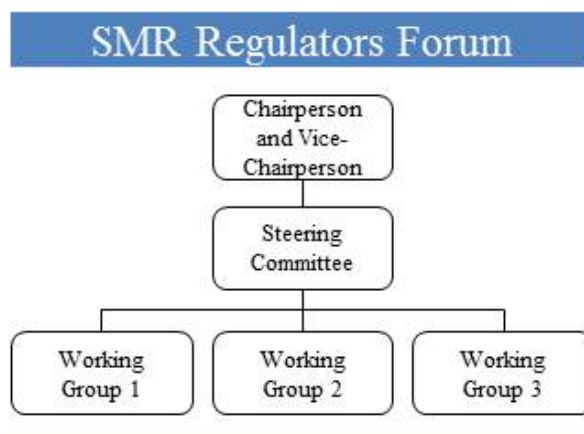**PILOT PROJECT PLAN**
**October 2015**

**Goals**

Establish an understanding of each member's regulatory views on common issues identified in the scope below to capture good practices and methods, enabling regulators to inform changes, if necessary, to their requirements and regulatory practices.

**Objectives**

- Share regulatory experience amongst forum members and strive to reach common understanding on discussed issues.

- Document and disseminate the results of the discussions.

- Interact with key stakeholders, where possible, to effectively inform forum activities.

**Forum Structure**



The proposed forum structure is provided in Figure 1 below. The structure will include a Chairperson, Co-chairperson, Steering Committee and issue specific Working Groups.

Figure 1: Forum Structure

**Scope**

Within a 2-year pilot project, the forum will address the following issues for both light-water and non-light-water reactor designs:

Emergency Planning Zones (EPZ)

Problem description: Because of the characteristics of SMRs, smaller Emergency Planning Zones (EPZs) are being proposed.

Referring to the following sub-topics, the group will examine existing practices and strategies for understanding how flexible (i.e., risk informed) EPZs are established in Member States. The group will review existing IAEA requirements and guidance to determine if any changes are needed.

Note - IAEA Safety Standard, NS-R-3 - Site Evaluations for Nuclear Installations, is scheduled for a complete review and the revision timeline coincides with the Working Group efforts.

The below considerations are meant to stimulate discussion for the working group:

- Siting;

- Source Term for water-cooled reactors (Sources Codes, Standards);

- Source Term for non-water-cooled reactors (Sources Codes, Standards);

- Consequences from multiple module accidents.

Defence in Depth for SMRs

Problem description: A number of SMR designers are proposing alternate ways to address Defence in Depth (DiD) in their designs. A discussion needs to look at these approaches and strive to develop common positions around certain regulatory practices to ensure that the fundamental principles of DiD are maintained.

The below considerations are meant to stimulate discussion for the working group:

- Different regulatory approaches for DiD (WENRA);

- Structural and functional DiD (Safety injection accumulators, classification of passive systems);

    o Inherent core characteristics

    o Sole reliance on passive safety systems

- Flexibility in the implementation of DiD for SMRs;

- Shared control room for multi-module facilities (shared SSCs);

- Common cause failure considerations;

- Different methods of applying single failure criteria.

<u>Grading Approaches</u>

Problem description: Regulators are being approached with SMR safety case proposals that are seeking to relax regulatory requirements for design and safety analysis. Therefore, there is a need to clarify the regulatory view of grading and what this means.

The forum members would like to share information about different methodologies used by regulators and licensees when addressing design and safety analysis requirements. There is a need to document the various regulatory approaches.

The below considerations are meant to stimulate discussion for the working group:

- Comparison between regulatory frameworks for research reactors and NPPs, how they are graded and what implications for SMRs might be;

- Understanding and documenting different methodologies;

- Grading, taking into account multi-module operation;

- Informing emerging countries who are developing new regulatory frameworks.

**Project Deliverables**

1. End-of-project report from the Steering Committee, including:

   - Assessment of project performance;

   - Recommendation(s) on identified issues;

   - Recommendation on project continuance or termination.

2. Working Group reports

3. Communication items to promote the forum and increase its public visibility, e.g. public and restricted web page, forum representation at relevant conferences etc.

In addition, the forum may produce the following:

- Positions statements on regulatory issues;

- Suggestions for revisions to or new IAEA documents;

- Suggestions for issues to be raised to international codes and standards organizations.

Common positions can emphasise or extend recommendations from existing guides or standards (IAEA documents, national regulatory guides, industrial standards, state-of-the-art documents, etc.) or can correspond to a new recommendation. The members of the forum should attempt to produce consensus-based documents on a particular issue. If consensus cannot be reached, all positions should be documented.

Common Positions are not legally binding and do not constitute additional obligations for the regulators or the licensees but are guidelines, recommendations, or assessments that may be helpful during safety reviews of new reactors. Any regulatory body may decide to implement the common positions through its national regulatory process.

The common positions may be used to develop new regulatory standards.

**Project Milestones**

- Steering Committee formed (by March 2015)

- Working Groups formed (by March 2015)

- Kick-off meeting (March 2015)

  - Working group plans approved

- Mid-term assessment report completed (March 2016)

- Submission of final working group reports to the Steering Committee (September 2016)

- Publish end-of-project report (March 2017)

- Decision to close project or transition to next programme phase (June 2017)

**Project Plan Execution**

Attachment 2 presents the execution of the pilot project to include milestones, tasks and schedule.

Reporting

Working Group Reports:

The working groups shall submit progress reports to the Steering Committee every 6 months (refer to Attachment 1 for the progress report template). At the discretion of the working groups, they may report any progress made, or issues needing immediate attention to the Steering Committee at any time in between the progress reporting periods.

Reporting shall be focused on problem resolution. The Working Group team leader is encouraged to report, as necessary, any issues / problems that may arise to the Steering Committee.

Mid-term Report:

The report will document challenges that need immediate attention to ensure the success of the project. Additionally, the report will include any interim conclusion from the working groups, and emergent issues will be discussed.

End-of-project report:

The report will summarize all project activities and conclusions and present an assessment of project performance.

Steering Committee

The Steering Committee (SC) will comprise Senior Regulatory Officials who have sufficient authority to allocate human and financial resources for the execution of this project plan. The SC members are expected to represent their regulatory body in areas of common positions.

The SC will facilitate the drafting of the mid-term assessment report and end-of-project report amongst its members drawing on input from the working group leads. The Scientific Secretary will draft these reports for review by the SC.

The SC will meet bi-annually, or as needed, to review the progress of this project and resolve emerging challenges.

The SC Chairperson and Co-Chairperson represent the voice of the forum in relevant meetings.

At the end of the project pilot phase, the SC will make a decision on the path forward for this forum.

<u>Working Groups</u>

The Working Groups (WGs) will pursue their activities in accordance with a work plan, developed by the WG and approved by the SC. These work plans should consider the SMR-specific attributes of the issue first. Each WG should seek to understand the relationships between the three WGs and how it impacts their issue. Amendments to the work plans are also subject to SC approval.

WG leaders shall be approved by the SC at their first meeting (kick-off meeting). In the case of multiple nominations for a working group leader, the forum leadership (forum Chairperson and Vice-Chairperson) will make a final decision.

The WG should be composed of subject matter experts from the regulatory bodies and/or their TSOs. As needed, the working groups may draw upon additional resources from expert organizations such as:

- Associations involved in emergency planning;

- Universities with experience in nuclear safety issues;

- Research & Development fora;

- Vendors/design authorities;

- Utilities;

- TSOs;

- IAEA.

Before the WGs contact an expert organization, they should consult the SC Chair or Co-Chair.

The WG meeting frequency and location is at the group leader's discretion, taking into account administrative support, travel costs etc.

Acknowledging the importance of face-to-face meetings, meetings may also be held using online virtual meeting software such as WebEx, whenever desired.

The WGs will have a collaboration space on the restricted forum web site, and may freely post information without prior consultation with the SC or the group leader. However, consensus based group results need to be reviewed by the group lead before posting.

The WG should endeavour to resolve issues internally. However, significant issues should be escalated to the SC as early as possible.

The WGs will report on progress to the SC every six months using the progress report template (refer to attachment 1).

Open and frank discussions are encouraged among working group members. However, portions of these discussions may need to be treated as sensitive information.

The WGs are responsible for writing their reports.

**Communications**

To effectively communicate with internal and external stakeholders, websites need to be developed with member participation. It is suggested the forum conduct its work using MS Sharepoint – an effective collaboration space for members. A communications plan will be developed during or after the kick-off meeting.

**IAEA Role**

The IAEA will provide a Scientific Secretary made available through an extrabudgetary contribution from forum member(s) to facilitate and promote the forum's activities.

**Finances**

The IAEA Scientific Secretary, as programme officer for this project, will consult with the Steering Committee on the forum's budgeting needs. The SC may solicit contributions from forum members.

**Attachments**

ATTACHMENT 1: Progress Report Template (every 6 months)

ATTACHMENT 2: Project Execution Table

# ATTACHMENT 1: Progress Report Template

# SMR REGULATORS' FORUM

About Project:

| | |
|---|---|
| **Project Title** | SMR Regulators Forum – Pilot Phase |
| **Starting Date** | YYYY/MM/DD    **Ending Date**    YYYY/MM/DD |
| **Chairperson & Vice Chairperson** | [name(s) and contact information] |
| **Project Purpose** | To identify, understand and address key regulatory challenges that may emerge in future SMR regulatory discussions. This will help enhance safety, efficiency in licensing, and enable regulators to inform changes, if necessary, to their requirements and regulatory practices. |
| **Composition of Steering Committee** | [country names] |
| **Partner Institutions/ Organizations** | [names and contact information] |

About Progress Report:

| | |
|---|---|
| **Document Title** | Working Group Progress Report |
| **Reporting Period** | [from YYYY/MM/DD to YYYY/MM/DD] |
| **Working Group Name** | [working group name or concerned topics of the group] |
| **Report Purpose** | The purpose of this report is to lay out the progress of the working group activities and to identify key areas of concern. This report will be submitted to the Steering Committee via Email and posted on the forum's protected web space. |
| **Working Group Leader** | [name and contact information] |
| **Composition Of Working Group** | [names, project role and contact information] |
| **Author(S)** | [names and contact information] |
| **Involved Stakeholders** | [names and contact information] |
| **External Co-Authors** | [names and contact information] |
| **Date** | [YYYY/MM/DD] |
| **Filename** | [provide exact filename if report is going to be published on the web] |
| **URL** | [provide URL if the report is going to be published on the web] |
| **Access** | ☐ Restricted to authors        ☐ Restricted to forum members        ☐ Public |

## 1. Purpose

Briefly describe the purpose of this working group.

## 2. Objectives

Provide bullet point information on what the working group is trying to achieve from a high level point of view.

## 3. Scope

Describe the scope of the working group and outline the issues being addressed.

## 4. Stakeholder Infrastructure

Provide detailed information on stakeholder infrastructure, i.e. what organizations were involved in which discussions and describe other sources of knowledge the working group drew upon to reach its objectives.

## 5. Meetings/Group Communication

Indicate where and when the group met, including webinars. More informal means of communicating may be subsumed and referred to as "web communication".

## 6. Key Discussion Points

Provide detailed information on the key discussion points discussed at group meetings, webinars or through the collaboration space (if formalized).

## 7. Findings/Recommendations

Describe the discussion findings and outcomes including recommendations and common positions.

## 8. Project Related Issues

Describe any issues or barriers that may prevent the group from reaching its objectives, including both issues of administrative/logistic nature, and topic-related challenges.

## 9. Attachments/Links

Include all relevant attachments:  Working group meeting minutes, presentations, expert statements and common position statements (if applicable). In addition provide links to all referenced safety standards and guides, technical documents, position papers etc.

# ATTACHMENT 2: Project Execution Table

# SMR REGULATORS' FORUM

| Purpose | Date | Travel Needs | | |
|---|---|---|---|---|
| | | Steering Committee | Working Group Chair | Working Group |
| SC approves draft WG project plans | March 2015 | x | x | x |
| WG Chair provide progress status to SC | July 2015 | NA | Optional | Optional |
| WG submit first progress report to SC<br>• WG will decide if face-to-face meeting is needed | September 2015 | | | |
| SC meeting with WG chairs in Vienna (WG members optional)<br>• review and comment on WG reports | October 2015 | x | x | |
| WG submit second progress report and initial draft of final report | February 2016 | | | |
| Joint SC and WG meeting in Vienna<br>• SC draft mid-term assessment report | March 2016 | x | x | x |
| WG submit final report to SC<br>• WG will decide if face-to-face meeting is needed | September 2016 | | | |
| SC meeting with WG chairs in Vienna (WG members optional)<br>• begin drafting final assessment report | October 2016 | x | x | |
| SC meeting to complete final assessment report | March 2017 | x | | |
| Decision on continuation of project/path forward | June 2017 | x | | |