Small Modular Reactor (SMR) Workshop

Presented at: IAEA Workshop on SMR reactor Safety and Licensing
By: Advanced Systems Technology and Management (AdSTM)

Hammamet, Tunisia
December 12 - 15, 2017
CONTACTS

• **International Atomic Energy Agency:**
  - Stu Magruder (s.magruder@iaea.org)

• **USNRC Office of International Programs contacts:**
  - Jack Ramsey (jack.ramsey@nrc.gov)

• **IRDP Contact:**
  - Tammy Way (tammy.way@adstm.com)

• **IAEA Presenters:**
  - Hadid Subki (m.subki@iaea.org)
  - David Shropshire (d.shropshire@iaea.org)

• **AdSTM Presenters:**
  - Charles Miller (charles.miller@adstm.com)
MEET AND GREET

- Introduction of instructors
- Introduction of Key IAEA and USNRC (AdSTM) staff
- Introduction of participant
- Workshop housekeeping items
Purpose

• Provide an overview on SMR technologies.

• Provide an update on the current status of development, licensing, and deployment of SMRs.

• Discuss associated technical and institutional issues facing SMRs.

• Provide IAEA “New Comer” Nations and NRC International Regulatory Development Partnership (IRDP) members an open forum to exchange information and national experience.

• Discuss areas of shared interest and identify challenges to SMR deployment in their respective countries.
Objective

- To provide IAEA and IRDP members with an introduction to SMR technologies, and the regulatory programs that support the safe and successful deployment of these new innovative designs.

- To share information with IAEA and IRDP members, and their nuclear regulatory body with relevant information that will enable them to plan for the future.
# Workshop Organization

**Tuesday, 12 December 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Presenter(s)</th>
</tr>
</thead>
</table>
| 9:00 – 9:45 | Welcoming Statements, Meeting Protocol and Introduction of Participants | Sr. Official? – CNSTN/AAEA  
S. Magruder – IAEA  
C. Miller – AdSTM |
| 9:45 – 11:00 | Advances in SMR Design & Technology Developments                    | H. Subki – IAEA                    |
| 11:00 – 11:15 | Coffee Break                                                        |                                    |
| 11:15 – 12:00 | Role of Nuclear power and Climate Change - Sustainable Development | D. Shropshire – IAEA                |
| 12:00 – 13:00 | Lunch                                                               |                                    |
| 13:30 – 14:00 | Current situation in Tunisia  
- Reasons for interest in SMRs  
- Progress in decision-making process  
- Potential challenges | Participant from Tunisia |
| 14:00 – 14:30 | Current situation in Jordan  
- Reasons for interest in SMRs  
- Progress in decision-making process  
- Potential challenges | Participant from Jordan |
| 14:30 – 15:00 | Current situation in Egypt  
- Reasons for interest in SMRs  
- Progress in decision-making process  
- Potential challenges | Participant from Egypt |
| 15:00 – 15:15 | Coffee Break                                                        |                                    |
| 15:15 – 16:30 | Breakout session to discuss the day’s presentations  
[2 groups]  
Facilitated by: C. Miller, D. Shropshire, H. Subki, S. Magruder | All |
| 16:30 – 17:00 | Leadership Session – report on breakout discussions                | All                                |
| 17:00 | Adjourn for the day                                                  | All                                |
## Workshop Organization

**Wednesday, 13 December 2017**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Presenter</th>
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</thead>
<tbody>
<tr>
<td>9:00 – 10:00</td>
<td>Report of Results of IAEA Technical Meeting in Tunis in October 2017</td>
<td>H. Subki – IAEA</td>
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<tr>
<td>10:00 – 10:45</td>
<td>Safety Principles and Guidance for SMRs</td>
<td>S. Magruder – IAEA</td>
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<td>10:45 – 11:00</td>
<td>Coffee Break</td>
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<tr>
<td>11:00 – 12:00</td>
<td>Indicators for SMR deployment and Economic Issues</td>
<td>D. Shropshire – IAEA</td>
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<td>12:00 – 13:30</td>
<td>Lunch</td>
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<tr>
<td>13:30 – 14:00</td>
<td>Current situation in Saudi Arabia - Reasons for interest in SMRs - Progress in decision-making process - Potential challenges</td>
<td>Participant from Saudi Arabia</td>
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<tr>
<td>14:00 – 14:30</td>
<td>Current situation in Kenya - Reasons for interest in SMRs - Progress in decision-making process - Potential challenges</td>
<td>Participant from Kenya</td>
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<tr>
<td>14:30 – 15:00</td>
<td>Current situation in Bahrain - Reasons for interest in SMRs - Progress in decision-making process - Potential challenges</td>
<td>Participant from Bahrain</td>
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<td>15:00 – 15:15</td>
<td>Coffee Break</td>
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<td>15:15 – 16:30</td>
<td>Breakout session to discuss the day’s presentations [2 groups Facilitated by: C. Miller, D. Shropshire, H. Subki, S. Magruder]</td>
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<td>16:30 – 17:00</td>
<td>Leadership Session – report on breakout discussions</td>
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<td>17:00</td>
<td>Adjournment</td>
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## Workshop Organization

**Thursday, 14 December 2017**

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<tr>
<td>9:00 – 10:00</td>
<td>Siting and Environmental Assessment</td>
<td>S. Magruder - IAEA</td>
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<td>10:00 – 11:00</td>
<td>Hybrid Energy Systems</td>
<td>H. Subki – IAEA</td>
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<td>11:00 – 11:15</td>
<td>Coffee Break</td>
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<td>11:15 – 12:00</td>
<td>Safeguards and Security</td>
<td>C. Miller – AdSTM</td>
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<td>12:00 – 13:30</td>
<td>Lunch</td>
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<td>13:30 – 14:00</td>
<td>Current situation in Congo</td>
<td>Participant from Congo</td>
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<td>- Potential challenges</td>
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<td>14:00 – 14:30</td>
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<td>U.S. Nuclear Regulatory Commission Licensing – A Historical Perspective</td>
<td>C. Miller – AdSTM</td>
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<td>9:45 – 10:15</td>
<td>IAEA SMR Regulator’s Forum</td>
<td>S. Magruder – IAEA</td>
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<td>IAEA Technology Roadmap for SMR Deployment</td>
<td>H. Subki - IAEA</td>
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<td>Coffee Break</td>
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<td>11:00 – 11:30</td>
<td>Final Questions &amp; Answers Workshop Survey – Complete &amp; Collect</td>
<td>All</td>
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<td>11:30 – 12:00</td>
<td>Workshop Certificates Distributed</td>
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Workshop Organization

- Lectures
- National presentations
- Breakout sessions
- Leadership sessions