2021 GNSSN Plenary

Networking during a pandemic
TSOF

22\textsuperscript{nd} September 2021

Michel Van haesendonck (Bel V), TSOF chair
EIBL-SCHWAEGER Carla (GRS), TSOF Vice-chair
Outline of presentation

1. What happened the last years?

2. TSO Forum Activities
   - TECDOC-1835 - Review of the TSO support to RB
   - TOSCA-Drafting IAEA methodology for TSO self Capacity Assessment
   - Tool, Case Studies, TSO Development Steps, National Workshops
   - TSO Conference – Preparation

3. TSOF Activities – Way ahead
**Impact of the Covid-19-Pandemic on the Safety of the Nuclear Sector**

**Background**

- Covid-19 has brought significant changes and restrictions for many areas of life, society and economy all over the world and also affected the nuclear sector
  - Many testing, maintenance and repair activities have been cancelled or suspended
  - Particular groups of staff are difficult to replace and therefore remain at risk of infection
  - No direct and face-to-face communication possible

Infection protection measures were implemented to minimize the risk...

- …of the virus being introduced into the working areas from outside
- …of the virus spreading among employees
- Minimum number of people and way of cooperation to “guarantee” the safety worldwide?
IAEA TSO Forum

- Established in 2010 by IAEA
- Platform to encourage open dialogue among TSOs worldwide
- Works to
  - Strengthen the role of technical and scientific capabilities in MS
  - Support technical and scientific capabilities in countries expanding or embarking on nuclear programme
  - Promote coordination and collaboration among the TSOF members to foster scientific and technical capacity building
  - Share safety and security research, development and experiences including lessons learned
  - Share feedback on the use of the IAEA safety standards and other publications

Steering Committee (Chairs)
- Michel Van haesendonck, Bel V (successor of Brian Thomas, US-NRC)
- Carla Eibl-Schwaeger (GRS)
TSOF Initiatives

Conclusions of past TSO conferences:
“Need to share experiences and practices in nuclear safety assessment”
“Expertise is science-based”
“Need to define roles and characteristics of TSOs supporting regulatory functions”
“Need to support Member States in their strategies to develop their TSO capacities”

2007: 1st TSO Conference:
develop a common understanding of the TSOs challenges

2010: 2nd TSO Conference:
Regulatory functions need to be science based.
Need of a platform for networking ⇒ Creation of TSO Forum

2014: 3rd TSO Conference:
Technical and Scientific function is a critical component of the regulatory system ⇒ Development of a TECDOC
Member States should have the possibility to evaluate the capabilities of their national technical scientific support function through peer review missions, either in the context of IRRS mission or in another way, to be identified (e.g. dedicated TSO missions). It also concluded that the TSO Forum (TSOF) could contribute to the building of TSO capabilities of newcomer countries. ⇒ TSO initiative

2018: 4rd TSO Conference in Brussels, Belgium:
Encourage further progress of TSO initiative ⇒ TSO Self Assessment Tool + National Workshop
Promote TSO potential contribution to the independence and sustainable effectiveness of the national regulatory system. ⇒ TSO initiative

2022: 5th TSO Conference in St. Petersburg, Russia
TSOF Initiatives

- TECDOC-1835
- Experience feedback
- Cases studies library
- TSO Self-assessment (TOSCA)
- National workshop
# TSO Forum Action Plan 2020-21

**Action plan of the TSO Forum – 2020**

<table>
<thead>
<tr>
<th>No</th>
<th>Action</th>
<th>Status and date</th>
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<tbody>
<tr>
<td>1</td>
<td>Steering Committee Meetings:</td>
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<tr>
<td></td>
<td>16th TSOF Steering Committee Meeting</td>
<td>End of Nov 2020</td>
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<tr>
<td>2</td>
<td>TSO initiative:</td>
<td></td>
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<tr>
<td></td>
<td>CS11 Enhancements of TSO self-assessment questionnaire, based on feedback from National Workshop in South Africa</td>
<td>May 2020</td>
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<td>July 2020</td>
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<td></td>
<td>CS Development of R&amp;D Topical priorities for embarking countries</td>
<td>TBD (can be planned after case studies from VTT and IRSN are received)</td>
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<td>CS11 Development of new case studies:</td>
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<tr>
<td></td>
<td>- on the training and development needs of a regulatory body (US-NRC)</td>
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<td>- on the interaction between TSOs and operating organizations in research (IRSN) (merge with the above CS)</td>
<td>To be merged with the above mentioned CS, and conducted after case studies from VTT and IRSN are received.</td>
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<td>Preparatory meetings for participants from Bangladesh and Belarus missions</td>
<td>Q3 2020</td>
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<td>International workshop to promote TSO initiative to share experience feedback from first TSO national workshops</td>
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<td>List of experts</td>
<td>TBD</td>
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<tr>
<td>4</td>
<td>TSO conferences</td>
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<tr>
<td></td>
<td>TSO Conference 2018 Proceedings</td>
<td>To be published in 2020</td>
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<tr>
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<td>5th International TSO Conference, Russian Federation</td>
<td>2022</td>
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<tr>
<td>5</td>
<td>Communication &amp; promotion</td>
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<td>- Development of a fact sheet roll up on the TSO initiative</td>
<td>May 2020</td>
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<td>- Side-event during IAEA GC64</td>
<td>IAEA GC 64, Sep 2020</td>
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<td>6</td>
<td>CS to draft mission, vision and strategy for TSOF (back to back with the 16th TSOF SC meeting)</td>
<td>2021</td>
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**Last Updated on: Feb 2020**
# TSO Forum Action Plan 2020-22

**Last Updated on:** March 2021

## Action plan of the TSO Forum - 2021

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<td>CS12 Enhancements of TSO spider web tool, based on feedback received from IAEA Technical Officers and to enhance scope for radiation safety and monitoring</td>
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<td>• on the training and development needs of a regulatory body (US NRC),</td>
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<td></td>
<td>• Performance of Review and Assessment of Safety Analysis Report (SAR) by a Technical Support Organization (TSO) to Support Licensing of Nuclear Power Plants by the Regulatory Body - PNRA, Pakistan</td>
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<td>• Research as a driving force of the TSO capacity in France, IRSN, France</td>
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<td>• Development of administrative and funding structure of Finnish national research programmes on reactor safety and nuclear waste management, VTT, Finland</td>
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## Preparatory meetings for participants from Bangladesh and Belarus missions

End of Q3 2021

## TSO National workshop in Belarus

Q4 2021

## TSO National workshop in Bangladesh

Q1 2022

## International workshop to promote TSO initiative to share experience feedback from first TSO national workshops

TBD (can be done after 2-3 national workshops)

## List of experts

CS Definition of list of domains of expertise among TSO Forum

TBD

## TSO conferences

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<td>1st Programme Committee Meeting for the 5th TSO Conference</td>
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<td>2nd Programme Committee Meeting for the 5th TSO Conference</td>
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## Communication & promotion

- Development of a fact sheet/roll up on the TSO initiative
- Side-event during IAEA GC65

May 2020

IAEA GC 65, Sep 2021

## CS to draft mission, vision and strategy for TSOF (back to back with the 16th TSOF SC meeting)

2021

## Task force to enhance cooperation between RCF-TSOF

TBD
IAEA TECDOC-1835 TSO Activities and Capacities

TSO activities

Support to the Regulatory Body

- Safety Assessment and Review related activities
- Development of Safety Regulation related activities
- Inspection related activities
- Emergency Prep. and Response activities
- Environment Assessment and Surveillance
- Dose Assessment and Surveillance
- Assessment of Operational Experience
- Communication and Consultation activities
- Other, as needed
- Networking and International Cooperation
- Support to other authorities or entities

Gain, Maintain and Develop the Expertise to Perform Support Activities

- Human Resource Development, Training in the field of Safety
- Research and Development in the field of safety
- Lessons learned and Enhancement of methodologies
- Developing Models, Tools and Infrastructure

TOSCA 8 Pillars
Development of TSO capacity

- What are the Scientific & Technical capabilities of the TSO?
- How are they developed, managed and sustained?
- How are they applied in regulatory functions?
Support in development of TSO Capabilities - TOSCA
## TOSCA – SWOT Analysis – Results (example)

### General (Broad Analysis) - Process and Performance

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<thead>
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### SWOT Analysis Diagram

- **1. Role, Characteristics and Management**
- **2. Capacity Building and Outreach**
- **3. Safety Assessment and Inspection**
- **4. Support to the Development of Regulatory Documents**
- **5. Dose and Environmental Assessment and Surveillance**
- **6. Assessment of Operating Experience**
- **7. Emergency Preparedness and Response**
- **8. Research and Development**
Title:
IAEA International Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security: **Strengthening scientific basis, ensuring flexibility and stability in a fast-changing world as well as providing opportunities for the young generation.**

Objective:
The Conference is to consider how to develop and strengthen technical and scientific capabilities to achieve enhanced nuclear and radiation safety and security of facilities and activities, including legacy and emerging challenges as well as the exchange and transfer of best practices with embarking countries.
TSO Forum – Way ahead

• Further Development of the Self-Assessment-Tool for the technical and scientific capabilities supporting Regulatory Functions
  – Further developed pillars
  – TOSCA handbook
  – Web-based tool

• Revision of the IAEA TECDOC-1835 with a specific focus on radiation protection and safety activities

• Application for National Workshops on developing and strengthening technical and scientific capacity, e.g. in Belarus, Bangladesh

• Development of R&D Topical Priorities for embarking priorities
TSO Forum Current Members

• Member States:
  Belgium, Canada, China, Czech Republic, Finland, France, Germany, Italy, Japan, Lithuania, Pakistan, Republic of Korea, Russian Federation, Slovakia, Slovenia, South Africa, Turkey, Ukraine, United Kingdom

• Partner Organizations:
  European Commission and its Joint Research Centre (JRC) and European Technical Safety Organizations Network (ETSON).

Interest in joining the TSOF ?
Interest in the TOSCA-tool ?

Any questions or interest, please contact:
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Thank you!

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