



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

**International Conference on Challenges Faced by
Technical and Scientific Support Organizations
(TSO) in Enhancing Nuclear Safety and Security:
Enhancing science and adaptability in a changing
world and creating perspective for a young
generation**

Saint Petersburg, Russian Federation

10–13 October 2022

Organized by the
International Atomic Energy Agency (IAEA)

Hosted by the
Government of the Russian Federation
through
Rostekhnadzor

Announcement and Call for Papers

A. Background

The International Conference on the Challenges faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security: Enhancing science and adaptability in a changing world and creating perspective for a young generation to be held in Saint Petersburg, Russian Federation, from 10-13 October 2022 will continue the tradition established by the four preceding conferences on this subject, which were held, respectively in Brussels, Belgium (2018), Beijing, China (2014), in Tokyo, Japan (2010) and in Aix-en-Provence, France (2007). Like these earlier conferences, the forthcoming one will play a vital part in the national and international efforts made to ensure the effectiveness of nuclear and radiation safety and security regulatory systems and will focus, in particular, on development and strengthening of 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 exchange and transfer of best practices with embarking countries.

It was already recognized that nuclear safety and security are to a great extent scientific in nature and that a regulatory body with responsibilities for nuclear facilities and other licensed activities involving radioactive material needs to have continuous access to technical and scientific expertise supporting regulatory functions. One of the main conclusions of the last conference in 2018 concerned the need to assist Member States in their strategies to develop their TSO capacities in order to promote TSO's potential contribution to the independence and sustainable effectiveness of the national nuclear safety and security regulatory infrastructures. This fifth conference on TSOs will, in particular, present achievements that address the recommendations from the previous TSO conferences.

This conference is being organized by the International Atomic Energy Agency (IAEA) and will be hosted by the Government of the Russian Federation through Rostechнадзор, supported by the Scientific and Engineering Centre for Nuclear and Radiation Safety (SEC NRS) and the European Technical Safety Organizations Network (ETSON).

B. Purpose and Objectives

The purpose of 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.

The conference will highlight the importance of scientific and technical capabilities to support regulatory decision-making for enhanced nuclear and radiation safety and security. While addressing challenges to the development, maintenance and enhancement of such capacities, the conference will:

- Enhance regulatory infrastructure for safety of existing nuclear facilities;
- Exchange of best practices with embarking countries;
- Enhance technology, science and adaptability in a changing world;
- Promote involvement of young generation in the TSO activities.

C. Themes and Topics

A preliminary programme will be made available on the conference web page well in advance of the conference. The final programme and the Book of Contributed Papers will be available upon registration at the conference.

The Conference will address the following themes:

General Role of Technical and Scientific Support Organizations (TSOs)

This theme will cover the following topics:

- 1.1 Long Term Operation, including commissioning Safety and Periodic Safety Review (PSR)
- 1.2 Transition to Decommissioning, challenges with Legacy, Unconventional Waste Management and Remediation
- 1.3 TSO role in Radiation Monitoring, Calibration and Record keeping
- 1.4 TSO Forum – IAEA publication (TECDOC-1835) and TOSCA (TSO Self Capability Assessment), including feedback from National Workshop in National Nuclear Regulator (NNR), South Africa
- 1.5 Inclusion of TSO Forum contributions in IAEA peer review and advisory services.

Interaction of TSOs with stakeholders

This theme will cover the following topics:

- 2.1 Interaction with public/civil society, regulators, academia, research institutions, industry and public authorities
 - TSO role in filling institutional voids or lack of technical scientific services caused by the absence of institutional infrastructure required to support nuclear safety, security and safeguards.

Technical and Scientific Emerging Challenges

This session will cover the following topics:

- 3.1 New and emerging technologies
- 3.2 Innovative tools and techniques (Artificial Intelligence, use of harmonized analytical tools to support regulatory decision making, etc.)
- 3.3 Lessons learned from COVID-19 pandemic.

Human, Scientific and Technical Capacity Building

This theme will cover the following topics:

- 4.1 Fostering TSO position with involvement of young generation and promoting gender equality
- 4.2 Education and Training
- 4.3 Research needs, priorities, and infrastructure

4.4 Roles of TSOs in Research and Development (R&D)

Role of TSOs in an international context and for Embarking Countries

This theme will cover the following topics:

- 5.1 Role of TSOs to support embarking countries, including building national TSO capacities
- 5.2 Cross-border and international involvement of TSO, along with regional approach
- 5.3 International cooperation

Role of TSOs in the holistic approach to risk and hazard

This theme will cover the following topics:

- 6.1 Safety, Security and Safeguards Interface
- 6.2 Promoting and fostering Safety and Security Culture
(Role of TSOs to ensure safety without comprising security, and vice versa, including nuclear, radiological, chemical and other conventional risks and hazards during operations and in decommissioning and legacy management)

D. Structure

The conference will consist of an opening plenary session, six topical sessions, and a closing plenary session.

To meet the conference's objectives, the conference will include:

- Presentations by the invited keynote speakers
- Presentations to highlight specific areas within each topical session and stimulate discussion among conference participants
- Posters and interactive presentations that present state-of-the-art information and knowledge in the subject area.

Opening Session

This session will include:

- A recap and review of the 2018 TSO conference, recommendations, actions and significant key outcomes;
- A review of progress in the implementation of the conclusions from all previous TSO conferences;
- An update on the revision of the IAEA Safety Standards Series and IAEA Nuclear Security Series publications.

Topical Sessions

- Session 1: General Role of Technical and Scientific Support Organizations (TSOs)
- Session 2: Interaction of TSOs with stakeholders

- Session 3: Technical and Scientific Emerging Challenges
- Session 4: Human, Scientific and Technical Capacity Building
- Session 5: Role of TSOs in an international context and for Embarking Countries
- Session 6: Role of TSOs in the holistic approach to risk and hazard

Closing Session

The closing session will include short presentations followed by a panel discussion during which the Chairperson of the conference and the session chairs will present summaries and highlight key issues related to ensuring effective and sustainable expertise.

E. Expected Outcomes

The expected outcomes of the conference are as stated below:

- Promote joint work of the Technical and Scientific Organizations (TSOs) and RBs on the harmonization of safety approaches;
- Gather feedback for the implementation and application of the IAEA Safety Standards;
- Strengthen the technical support capabilities for regulating emerging technologies taking into consideration innovative approaches and tools;
- Promote a global culture for safety and security as a basis to ensure holistic approach to risk and hazard, capacity building and continuous improvements in the pursuit of high levels of safety;
- Promote the role of TSOs to enhance the safety, security and safeguards interface;
- Promote openness and transparency to foster TSO's role and achievements;
- Promote opportunities to increase the dialogue between civil society and technical experts so as to contribute to the trust and confidence in the technical basis supporting regulatory decisions;
- Provide a forum to share experience in order to support the experts of tomorrow and transfer knowledge and skills;
- Elaborate common approaches on providing assistance and tools to embarking countries in building and maintaining a science-based regulatory infrastructure;
- Promote effective and sustainable research to feed and sustain expertise in the long term, to better support regulatory systems.
- Further develop and use the IAEA Technical Document 1835 (TECDOC-1835) "Technical and Scientific Support Organizations Providing Support to Regulatory Functions" and its corresponding self-assessment tool TOSCA;
- Develop existing IAEA peer review and advisory services in such a way, so as to incorporate the contribution of the TSOs to the challenges faced by the national regulatory system.

F. Target Audience

- Conference participants, senior government officials, staff from TSOs, regulators, industry and other stakeholders, as well as technical and scientific experts working in all areas of regulatory functions;
- young professionals, students, youth;
- and general public, media, NGOs, academics.

G. Call for Papers

Contributions on the topics listed in Section C are welcome as oral or poster presentations. All submissions, apart from invited papers, must present original work, which has not been published elsewhere.

G.1. Submission of Abstracts

Abstracts (approximately 150 to 200 words on one printed A4 page, may contain any charts, graphs, figures and references) should give enough information on the content of the proposed paper to enable the Programme Committee to evaluate it. Anyone wishing to present at the conference must submit an abstract in electronic format using the conference's file submission system ([IAEA-INDICO](#)), which is accessible from the conference web page (see Section Q). The abstract can be submitted through this system from **1 December 2021** until **11 February 2022**. Specifications for the layout will be available on IAEA-INDICO. The system for electronic submission of abstracts, IAEA-INDICO, is the sole mechanism for submission of contributed abstracts. Authors are encouraged to submit abstracts as early as possible. The IAEA will not accept submissions via email.

In addition, authors must electronically submit the following two forms to their appropriate governmental authority using the InTouch+ platform (see Section H) for transmission to the IAEA. These forms must be received by the IAEA no later than **11 February 2022**:

- Participation Form (Form A)
- Form for Submission of a Paper (Form B)

IMPORTANT: The Programme Committee will consider uploaded abstracts only if these two forms have been received by the IAEA through the established official channels (see Section H).

G.2. Acceptance of Abstracts

The Secretariat reserves the right to exclude abstracts that do not comply with its technical or scientific quality standards and that do not apply to one of the topics listed in Section C.

Authors will be informed by **18 March 2022** as to whether their submission has been accepted, either orally or as a poster, for presentation at the conference. Accepted abstracts will also be reproduced in an unedited electronic compilation of Abstracts which will be made available to all registered participants of the conference.

G.3 Submission of Full Papers

Authors of accepted abstracts will be requested to submit a full paper in Word format, of about 5 to 6 pages in length. A compilation of full papers (in electronic format) will be made available to participants at registration.

Full papers must also be submitted through the [IAEA-INDICO](#) file submission system in Word format. Submitting the paper in the indicated electronic format is mandatory. Specifications for the layout and electronic format of the contributed papers and for the preparation of posters will be made available on IAEA-INDICO.

The IAEA reserves the right to exclude papers that do not comply with its quality standards and those that do not apply to one of the topics outlined in Section C above and those that do not meet the expectations based on the information in the abstract.

The deadline for electronic submission of the full papers as Word files is **9 May 2022**. The IAEA will not accept papers submitted after the deadline.

The IAEA will notify authors of its completed review process of the full papers by **27 June 2022**. The deadline for revised papers to be submitted through IAEA-INDICO is **18 July 2022**.

IMPORTANT: The system for electronic submission of papers, IAEA-INDICO, is the sole mechanism for submission of contributed papers. Authors are encouraged to submit papers as early as possible. The IAEA will not accept submissions via email.

G.4 Proceedings

Following the conference, the IAEA will publish a summary report. The proceedings will be made available to read online.

H. Participation and Registration

All persons wishing to participate in the event must be designated by an IAEA Member State or should be member of an organization that has been invited to attend. The list of IAEA Member States and invited organizations is available on the event web page (see Section Q).

Registration through the InTouch+ platform:

1. Access the InTouch+ platform (<https://intouchplus.iaea.org>):

- Persons with an existing NUCLEUS account can [sign in here](#) with their username and password;
- Persons without an existing NUCLEUS account can [register here](#).

2. Once signed in, prospective participants can use the InTouch+ platform to:

- Complete or update their personal details under ‘Basic Profile’ (if no financial support is requested) or under ‘Complete Profile’ (if financial support is requested) and upload the relevant supporting documents;
- Search for the relevant event (**EVT2006108**) under the ‘My Eligible Events’ tab;
- Select the Member State or invited organization they want to represent from the drop-down menu entitled ‘Designating authority’ (if an invited organization is not listed, please contact Conference.Contact-Point@iaea.org);

- If applicable, indicate whether a paper is being submitted and complete the relevant information;
- If applicable, indicate whether financial support is requested and complete the relevant information (this is not applicable to participants from invited organizations);
- Based on the data input, the InTouch+ platform will automatically generate Participation Form (Form A), Form for Submission of a Paper (Form B) and/or Grant Application Form (Form C);
- Submit their application.

Once submitted through the InTouch+ platform, the application will be transmitted automatically to the required authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority). If approved, the application will automatically be sent to the IAEA.

NOTE: Should prospective participants wish to submit a paper or request financial support, the application needs to be submitted by the specified deadlines (see section O).

For additional information on how to apply for an event, please refer to the [InTouch+ Help](#) page. Any other issues or queries related to InTouch+ can be sent to InTouchPlus.Contact-Point@iaea.org.

If it is not possible to submit the application through the InTouch+ platform, prospective participants are requested to contact the IAEA's Conference Services Section via email: Conference.Contact-Point@iaea.org.

I. Expenditures and Grants

No registration fee is charged to participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of certain participants. Upon specific request, such assistance may be offered to normally one participant per country, provided that, in the IAEA's view, the participant will make an important contribution to the conference.

If participants wish to apply for a grant, they should submit applications to the IAEA using the InTouch+ platform through their competent national authority (see Section H). Participants should ensure that applications for grants are:

1. Submitted by **28 February 2022**;
2. Accompanied by Grant Application Form (Form C); and
3. Accompanied by Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

Approved grants will be issued in the form of a lump sum payment that usually covers **only part of the cost of attendance**.

J. Distribution of Documents

A preliminary and final programme will be made available on the conference web page (see Section Q) prior to the start of the conference. The electronic compilation of abstracts will be accessible free of charge to participants registered for the conference.

K. Exhibitions

A limited amount of space will be available for commercial vendors' displays/exhibits during the conference. Interested parties should contact the Scientific Secretariat by email TSO-Conference-2022.Contact-Point@iaea.org by **28 February 2022**.

L. Working Language

The working language of the conference will be English. All communications must be sent to the IAEA in English.

M. Venue and Accommodation

The conference will be held in Saint Petersburg, Russian Federation. Detailed information on accommodation and other relevant matters will be sent to all designated participants approximately three months before the conference. This information will also be made available on the conference web page.

N. Visas

Designated participants who require a visa to enter the Russian Federation should submit the necessary application to the nearest diplomatic or consular representative of the Russian Federation as soon as possible. Further advice and instructions will be made available on the IAEA web page for the conference (see Section Q).

O. Key Deadlines and Dates

Submission of abstracts through IAEA-INDICO	11 February 2022
Submission of Form B (together with Form A) through the InTouch+ platform	11 February 2022
Submission of Form C (together with Form A) through the InTouch+ platform	11 February 2022
Notification of acceptance of abstracts for oral or poster presentation	18 March 2022
Electronic submission of full papers through IAEA-INDICO	9 May 2022
Notification of review of full papers	27 June 2022
Deadline for submission of revised full papers submitted through IAEA-INDICO	18 July 2022
Submission of Form A only (no paper submission, no grant request) through the InTouch+ platform	No deadline

P. Conference Secretariat

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries and correspondence on administrative matters to the IAEA's Conference Services Section.

Q. Conference Web Page

Please visit the IAEA conference [web page](#) regularly for new information regarding this conference.