IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Workshop on Fire, Explosion and Chemical Safety at Nuclear Fuel Cycle Facilities

Virtual Event

15 – 18 March 2027

Ref. No.: EVT2603300

Information Sheet

Introduction

The International Atomic Energy Agency (IAEA) Safety Standards Series No SSR-4, Safety of Nuclear Fuel Cycle Facilities requires that the design of these facilities shall ensure protection against toxic chemical exposures associated with radioactive material, as well as prevention of fire and explosions with potential radiological consequences. SSR-4 also requires that the operating organization of a nuclear fuel cycle facility (NFCF) shall establish and implement a programme for controlling the risks associated with industrial and chemical hazards and shall make arrangements for ensuring protection against fire and explosion. Further the potential for external and internal fires and explosions shall be analysed and related potential initiating events shall be identified for use in the safety analysis.

The operating experience collected through the Fuel Incident Notification and Analysis System (FINAS) as well as the feedback from IAEA activities on safety of NFCFs show that release of hazardous chemicals and fires could have implications on the safety of personnel as well as the operational safety of these facilities. Feedback from IAEA activities also showed the need to establish and implement design measures and operational programmes to effectively address the chemical and fire safety of NFCFs.

In response to this, the IAEA is organizing this Workshop on Fire, Explosion and Chemical Safety at Nuclear Fuel Cycle Facilities to be held virtually via Microsoft Teams from 15 to 18 March 2027.

Objectives

The purpose of the event is to provide Member States with a forum to discuss and exchange experience in safety assessment and measures for ensuring fire, explosion and chemical safety at nuclear fuel cycle facilities and to provide participants with practical information in this area.

Target Audience

Participation in the meeting is subject to designation by Governments or national organizations. The workshop is open to participants from all IAEA Member States with existing or planned NFCFs. To ensure maximum effectiveness in the exchange of information, participants should be persons responsible for and having experience in managing fire, explosion and chemical safety during the design or operation of NFCFs. Specialists from regulatory bodies and technical support organizations in the areas of fire, explosion and chemical safety at NFCFs can also participate in the meeting. Member States are strongly encouraged to identify suitable women participants.

The range of the NFCFs covered by the event includes facilities for the processing, refining, conversion, enrichment and fabrication of fuel; spent nuclear fuel storage and reprocessing; nuclear fuel cycle research and development facilities; and supporting facilities in which radioactive material is handled. Nuclear power plants, research reactors, facilities for the mining and processing of natural ore and waste disposal facilities are outside the scope of the event.

Working Language(s)

English.

Topics

In addition to presentations by the IAEA representatives, the event will include presentations by the participants on their national practices and experiences related to the safety assessment and measures for ensuring fire, explosion and chemical safety at NFCFs.

The topics that are expected to be covered include:

- Application of the SSR-4 requirements for fire, explosion and chemical safety at NFCFs;
- Fire hazard analysis and explosion hazard analysis for NFCFs, including identification and selection of postulated initiating events;
- Safety assessment of fire, explosion and chemical safety at NFCFs, including use of quantitative risk assessment and probabilistic methods;
- Measures to control fire, explosion and chemical hazards (reactive, flammable, corrosive and pyrophoric materials and mixtures) associated with processing of nuclear and other radioactive material at NFCFs;

— Operational safety programmes on fire, explosion and chemical safety at NFCFs;
— Arrangements for mitigation of non-radiological consequences an emergency due to fire, explosion and chemical hazards at NFCFs.
— Experiences in application of national regulatory requirements related to fire, explosion and chemical safety at NFCFs;
— Regulatory inspection, review and assessment of programmes for fire, explosion and chemical safety at NFCFs.

Presentations will be followed by discussions in working groups on design and operational safety aspects related to fire, explosion and chemical safety at NFCFs.

Participation and Registration

All persons wishing to participate in the event have to be designated by an IAEA Member State or should be members of organizations that have been invited to attend.

In order to be designated by an IAEA Member State or invited organization, participants are requested to submit their application via the InTouch+ platform (https://intouchplus.iaea.org) to the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) or organization for onward transmission to the IAEA by **22 January 2027**, following the registration procedure in InTouch+:

1. Access the InTouch+ platform (https://intouchplus.iaea.org):
   - Persons with an existing NUCLEUS account can sign in to the platform 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 'Complete Profile' and upload the relevant supporting documents;
   - Search for the relevant event 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 InTouchPlus.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 the Participation Form (Form A);
   - Submit their application.

Once submitted through the InTouch+ platform, the application, together with the auto-generated form(s), will be transmitted automatically to the required authority for approval. If approved, the application, together with the applicable form(s), will automatically be sent to the IAEA through the online platform.

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.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and technical matters.

Participants are hereby informed that the personal data they submit will be processed in line with the Agency's Personal Data and Privacy Policy and is collected solely for the purpose(s) of reviewing and assessing the application and to complete logistical arrangements where required. The IAEA may also use the contact details of Applicants to inform them of the IAEA's scientific and technical publications, or the latest employment opportunities and current open vacancies at the IAEA. These secondary purposes are consistent with the IAEA's mandate. Further information can be found in the Data Processing Notice concerning IAEA InTouch+ platform.

Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above.

Submission of a paper should be confirmed, together with the submission of the main application via the InTouch+ platform, by **22 January 2027**.

IAEA Contacts

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretary/Secretaries and correspondence on other matters related to the event to the Administrative Secretary.