

الوكالة الدرية للطاقة الذرية 国际原子能机构 International Atomic Energy Agency Agence internationale de l'énergie atomique Международное агентство по атомной энергии Organismo Internacional de Energía Atómica

地址: Vienna International Centre, PO Box 100, 1400 Vienna, Austria 电话: (+43 1) 2600 • 传真: (+43 1) 26007 电子信箱: Official.Mail@iaea.org • 因特网: https://www.iaea.org

复函请援引: EVT2400708 直接拨打分机: (+43 1) 2600-26109

国际原子能机构(原子能机构)秘书处向原子能机构各成员国致意,并荣幸地提 请注意将于 2025 年 9 月 30 日至 10 月 3 日在奥地利维也纳原子能机构总部举行的核电 厂运行状态和事故工况的确定性安全分析技术会议(以下称"活动")。

另外,还将允许通过 Microsoft Teams 以虚拟方式参加这次活动。

这次活动的目的是汇集设计者、营运者和监管者,分享成员国在对成熟技术和新 技术进行确定性安全分析时的当前实践的信息。

随附"资料单"提供这次活动的进一步详情。

这次活动将使用英文。

请成员国指派一名或几名参加者参加这次活动。大力鼓励各成员国确定女性参加 者。

原子能机构一般不承担参加者参加活动的差旅费和其他费用。但原子能机构可支 配有限资金,用于帮助支付某些参加者的参加费用。根据具体申请通常可向每个国家 的一名参加者提供此种援助,条件是原子能机构认为该参加者将为这次活动做出重要 贡献。如随附"资料单"所示,应**不迟于 2025 年 6 月 30** 日通过 InTouch+平台提交财 政支助的申请。

应注意,原子能机构对个人财产遭受的任何损坏或损失概不赔偿。原子能机构也 不向原子能机构活动的参加者提供健康保险。因此,个人应做私人保险安排。但是, 原子能机构将就明显因为原子能机构工作而引起的事故和疾病提供保险。

如随附"资料单"所示,应**不迟于 2025 年 6 月 30** 日通过国家主管当局(外交部、常 驻原子能机构代表团或国家原子能机构)在 InTouch+平台(<u>https://intouchplus.iaea.org</u>) 上将指派名单提交原子能机构。

一俟收到正式指派名单,这次活动的科学秘书将酌情就进一步的安排(包括差旅 详情)与参加者直接联系。 此外,若各国政府还希望指派一名或多名观察员协助所指派的参加者并向其提供 咨询意见,则诚请在上述日期之前将任何此类观察员的姓名和详细联系方式通知原子 能机构。根据既定规则,希望各国政府承担其可能派出参加原子能机构活动的任何观 察员的参加费用。原子能机构对观察员个人财产遭受的任何损坏或损失,或在其前往 参加原子能机构活动的旅途中发生的或与参加原子能机构活动有关的疾病、伤害或死 亡概不赔偿。

原子能机构对可能或旨在允许任何人访问或自行访问、删除或以其他方式损害或 修改任何终端用户的任何数据或任何系统、服务器、设施或其他基础设施的任何病 毒、蠕虫、陷阱门、后门、计时器、时钟、计数器或其他限制性程序、指令或设计, 或其他恶意、非法或类似的未请求代码,包括监视软件或例行程序(统称"禁用代 码"),均不承担任何责任,而且虚拟会议服务提供商已声明并担保,这些服务不会包 含且任何终端用户也不会从用于举行虚拟会议的软件收到这些"禁用代码"。

国际原子能机构秘书处借此机会再次向原子能机构各成员国致以最崇高的敬意。



2025年3月28日

附件(仅以英文印发):资料单



Atoms for Peace and Development

الوكالة الدولية للطاقة الذرية 国际原原子能机构 International Atomic Energy Agency Agence internationale de l'énergie atomique Международное агентство по атомной энергии Organismo Internacional de Energía Аtómica

Vienna International Centre, PO Box 100, 1400 Vienna, Austria Phone: (+43 1) 2600 • Fax: (+43 1) 26007 Email: Official.Mail@iaea.org • Internet: https://www.iaea.org

In reply please refer to: EVT2400708 Dial directly to extension: (+43 1) 2600-26109

The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the **Technical Meeting on Deterministic Safety Analysis for Operational States and Accident Conditions for Nuclear Power Plants** (hereinafter referred to as "event") to be held at the IAEA's Headquarters in Vienna, Austria, from **30 September to 3 October 2025**.

In addition, the event will allow for virtual participation via Microsoft Teams.

The purpose of the event is to bring together designers, operators and regulators to share information on the current practices in Member States when performing deterministic safety analysis for proven and new technologies.

The attached Information Sheet provides further details of the event.

The event will be held in English.

Member States are invited to designate one or more participants for this event. Member States are strongly encouraged to identify women participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the event. The IAEA has, however, limited funds at its disposal to help meet 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 event. The application for financial support should be made via the InTouch+ platform not later than **30 June 2025**, as indicated in the enclosed Information Sheet.

It should be noted that compensation is not payable by the IAEA for any damage to or loss of personal property. The IAEA also does not provide health insurance coverage for participants in IAEA events. Arrangements for private insurance coverage on an individual basis should therefore be made. The IAEA will, however, provide insurance coverage for accidents and illnesses that clearly result from any work performed for the IAEA.

Designations should be submitted to the IAEA via the InTouch+ platform (<u>https://intouchplus.iaea.org</u>) through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) not later than **30 June 2025**, as indicated in the enclosed Information Sheet.

The Scientific Secretary of the event will liaise with the participants directly concerning further arrangements, including travel details, as appropriate, once the official designations have been received.

Should Governments wish, in addition, to appoint one or more observers to assist and advise the designated participants, they are kindly requested to inform the IAEA of the names and contact details of any such observers by the above date. In accordance with the established rules, Governments are expected to bear the cost of attendance of any observers they may send to IAEA events. Compensation is not payable by the IAEA for any damage to or loss of observers' personal property or for illness, injury or death occurring while travelling to or in connection with their attendance at IAEA events.

The IAEA takes no responsibility for, and the provider of the virtual meeting services has represented and warranted that the Services shall not contain, and that no end user shall receive from the software used to hold the virtual meeting, any virus, worm, trap door, back door, timer, clock, counter or other limiting routine, instruction or design, or other malicious, illicit or similar unrequested code, including surveillance software or routines which may, or is designed to, permit access by any person, or on its own, to erase, or otherwise harm or modify any data or any system, server, facility or other infrastructure of any end user (collectively, a "Disabling Code").

The Secretariat of the International Atomic Energy Agency avails itself of this opportunity to renew to the IAEA's Member States the assurances of its highest consideration.



2025-03-28

Enclosure: Information Sheet



Technical Meeting on the Deterministic Safety Analysis of Operational States and Accident Conditions at Nuclear Power Plants (Revision of the Safety Reports Series No. 23)

IAEA Headquarters, Vienna, Austria

and virtual participation via Microsoft Teams

30 September – 03 October 2025

Ref. No.: EVT2400708

Information Sheet

Introduction

Since the publication of Safety Reports Series No. 23 on Accident Analysis for Nuclear Power Plants (NPPs) in 2002, several major safety standards have been issued, and later revised by the IAEA, particularly to account for the lessons learned from the Fukushima Daiichi NPP accidents. These standards include a set of new requirements related to safety assessment and safety analysis in GSR Part 4 (Rev. 1) (e.g. paras 4.5, 4.13–4.17 under Requirement 4) and SSR-2/1 (Rev. 1) (e.g. under Requirement 10), which are completed by recommendations through various safety guides.

Moreover, the methods for accident analysis have significantly evolved over the past two decades in several aspects. These evolutions include a better understanding of physical phenomena, the integration of research results into models, the development of computing capabilities, and the use of more sophisticated and mature models and codes, allowing a wider use of computational fluid dynamics and coupling. Additionally, uncertainty quantification has progressed in different areas, benefiting the safety analysis of nuclear reactors.

Lastly, the advent of evolutionary and innovative reactor designs has raised new issues and challenges to be addressed by deterministic safety analyses (DSA), including those related to the broader use of passive systems. In addition, a review of the applicability of the IAEA Safety Standards to non-water-cooled reactors and small modular reactors (SMRs) is presented in Safety Reports Series No. 123 (2023). It concludes that, in general, safety assessment approaches and techniques that are used for current (water-cooled) reactors are applicable for SMRs and innovative reactors. However, the review also identified the need for additional guidance on safety analysis, including the DSA.

Objectives

The purpose of the meeting is to bring together designers, licensees, operators, and regulators to share information on current good practices, experiences, and new developments around performing DSA. This will cover all steps in performing the analyses, i.e. identification of initiating events, analysis methodology, acceptance criteria, selection of computer codes including their demonstration of code applicability and verification and validation (V&V), preparation of input data (e.g., plant parameters and modeling assumptions), assessment of uncertainties, and presentation of the analysis results.

The discussions during this Technical Meeting will provide inputs for the revision of the Safety Reports Series No. 23 (published in 2002), addressing the evolution of DSA over the last two decades. With an expanded scope to cover operational states and accident conditions, it will address the mature technologies and evolutionary and innovative reactor designs commensurately with the information available. It will ensure consistency with relevant IAEA safety standards published in the last few years, especially with <u>GSR Part 4 (Rev. 1)</u>, <u>SSR-2/1</u> (Rev. 1), <u>SSG-2 (Rev. 1)</u> and <u>SSG-88</u>.

Target Audience

The event is open to representatives of nuclear power organizations from Member States with an active nuclear power programme, including from embarking countries that have undertaken activities to implement their first nuclear power plant, and Member States with extensive expertise in the topics covered by the event. It includes government organizations (analysts, regulatory bodies and research and development agencies), and industry (designers, vendors, engineering companies, plant operators and technology developers).

Working Language(s)

English.

Expected Outputs

The expected outputs of this event are 1) provision of support to Member States in understanding the proper implementation of deterministic safety analysis, 2) provision of assistance to Member States in developing a

comprehensive framework to perform deterministic safety analysis for existing Nuclear Power Plants (NPPs) and applications for advanced reactors, including evolutionary reactors, innovative reactors and SMRs, and 3) compilation of inputs from experienced practitioners in the area.

The outcomes from this meeting will provide inputs to a Safety Report compiling authoritative information from Member States on deterministic safety analysis of operational states and accident conditions at nuclear power plants (revision of the Safety Reports Series No. 23). The insights gained from the technical meeting will be considered for future review of relevant safety standards and technical review services offered by the IAEA.

Topics

The event will address aspects related to the DSA for NPPs including:

- Identification, categorization and grouping of Postulated Initiating Events (PIEs for anticipated operational occurrences and accident conditions).
- Acceptance criteria.
- Analysis approaches: conservative, best-estimate (realistic), combined, BEPU (best-estimate plus uncertainties) approaches.
- Types of analyses: design analysis, licensing analysis, validation of plant simulators, support for accident management and emergency planning including validation of emergency operating procedures and guidelines, analysis related to probabilistic safety assessment, analysis of operational events, regulatory oversight.
- Computer codes: selection and use of computer codes, process management, verification and validation (V&V), qualification of input data, documentation of computer codes.
- Preparation of input data for DSA.
- DSA for operational plant states and accident conditions.
- DSA in support of practical elimination of sequences that might lead to early or large radioactive releases.
- User effects.
- Treatment and evaluation of uncertainties.
- Presentation and evaluation of DSA results.

Participation and Registration

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

In order to be designated to be designated by an IAEA Member State or invited organization, participants are requested to submit their application via the InTouch+ platform (<u>https://intouchplus.iaea.org</u>) 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 **30 June 2025**, following the registration procedure in InTouch+:

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

- 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 <u>here</u>.

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 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) and/or the Grant Application Form (Form C);
- 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.

NOTE: The application for financial support should be made, together with the submission of the application, by **30 June 2025**.

For additional information on how to apply for an event, please refer to the <u>InTouch+ Help</u> page. Any other issues or queries related to InTouch+ can be sent to <u>InTouchPlus.Contact-Point@iaea.org</u>.

Selected participants will be informed in due course on the procedures to be followed regarding administrative and financial matters.

Participants are hereby informed that the personal data they submit will be processed in line with the <u>Agency's</u> <u>Personal Data and Privacy Policy</u> 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 <u>Data Processing Notice</u> 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.

Participants who wish to give presentations are requested to submit an abstract of their work. The abstract will be reviewed as part of the selection process for presentations. The abstract should be in A4 page format, should extend to no more than 2 pages (including figures and tables) and should not exceed 500 words. It should be sent electronically to Ms Tania Veneau, copying Mr Paulo Sales Barbosa (see contact details below), no later than **30 June 2025**. Authors will be notified of the acceptance of their proposed presentations by **31 July 2025**.

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 event. The IAEA has, however, limited funds available to help cover the attendance costs 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 event.

The application for financial support should be made, together with the submission of the application, by **30 June 2025**.

Venue

The event will be held at the Vienna International Centre (VIC), where the IAEA's Headquarters are located. Participants must make their own travel and accommodation arrangements. General information on the VIC and other practical details, such as a list of hotels offering a reduced rate for IAEA participants, are listed on the following IAEA web page: <u>www.iaea.org/events</u>.

Participants are advised to arrive at Checkpoint 1/Gate 1 of the VIC one hour before the start of the event on the first day to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Visas

Participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria at least four weeks before they travel to Austria. Since Austria is a Schengen State, persons requiring a visa will have to apply for a Schengen visa. In States where Austria has no diplomatic mission, visas can be obtained from the consular authority of a Schengen Partner State representing Austria in the country in question.

IAEA Contacts

Scientific Secretary:

Ms Tania Veneau

Division of Nuclear Installation Safety Department of Nuclear Safety and Security International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA Tel.: +43 1 2600 26109 Email: <u>T.Veneau@iaea.org</u>

Administrative Secretary:

Mr Paulo Barbosa

Division of Nuclear Installation Safety Department of Nuclear Safety and Security International Atomic Energy Agency Vienna International Centre PO Box 100 1400 VIENNA AUSTRIA Tel.: +43 1 2600 22687 Email: <u>P.Sales-Barbosa@iaea.org</u>

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

Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:

https://www.iaea.org/events/evt2400708