

邀请参加国际原子能机构(IAEA)

活动通知单

发出单位	国家原子能机构国际合作司		共 1+11 页		
接收单位	环保部国际合作司、中核集团公司国际合作部、中广核集团公司办公厅、国家核电技术公司				
活动名称	制定核设施各种风险贡献因素整合方法技术会议				
活动地点	奥地利 维也纳	活动时间	2018年3月26日-3月29日		
费用来源	申请机构资助	工作语言	英语	推荐名额	1名
报名截止日期	2018年1月5日				
随附通知或文件	机构通知				
报名提交材料	<p>请登陆 http://www.caca-com.net.cn 从网上报名</p> <p>1、单位推荐函（可参考网上提供的模版，右下角盖单位公章）</p> <p>2、IAEA 活动报名表（通知随附英文表）</p> <p>3、英语水平证明（语言等级证书或单位开具证明）</p> <p>注：如无法通过网站报名，请将以上材料通过传真或邮件发至以下联系人</p>				
联系人	<p>国家原子能机构国际合作司</p> <p>徐浩然</p> <p>电话：010-88581027 传真：010-88581516</p> <p>电子邮件：xuhaoran_caea@163.com</p> <p>通讯地址：北京市海淀区阜成路甲八号（邮编：100048）</p>				
备注	<p>参加机构活动人员，必须于活动结束后两周内，按照要求的格式和内容将活动情况总结发送到上述联系人的邮箱，因故不能参会者应说明理由，逾期不提交报告者或无故缺席会议者，将不受理其下次参加机构活动的报名申请。</p>				

司授权签发人：

黄平

签发日期：2017年12月28日

附件

参加机构活动总结报告的格式和内容要求

一、活动名称。

二、本次活动背景。

三、参加本次活动的目的和意义。

四、活动过程介绍。

包括活动的具体日程安排和主要议题、参加人员情况、活动期间的发言、达成的目标、决议或共识、下一步拟开展工作与安排等内容。

五、结论及收获。

总结参加本次活动的收获及对后续工作的启发、建议。

六、附件。

提供与活动相关的材料，包括本次活动背景材料、活动期间的发言或汇报材料、讨论和决议材料等。

报告日期：

报告人姓名：

单位名称：

电话：

传真：

电子邮件：

**IAEA**

原子用于和平

الوكالة الدولية 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

维也纳国际中心 • 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: <http://www.iaea.org>

复函请援引: EVT1701308

直接拨打分机: (+43 1) 2600-25823

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**2018年3月26日至29日**在奥地利维也纳原子能机构总部举行的**制订核设施各种风险贡献因素整合方法技术会议**。

这次会议的目的是作为国际论坛，介绍和讨论核设施相关风险整合领域的当前实践、最新发展和挑战。会议将特别侧重于与各种放射源、各种设施运行状态和各种危害的风险整合有关的挑战。此外，会议还将提供一个平台，讨论最近发起的旨在编写暂定标题为《核设施各种风险贡献因素整合方法》“技术报告”的原子能机构活动。

随附“资料单”提供会议的进一步详情。

会议将使用英文。

这次会议面向核电厂设计和营运组织、监管机构和技术支持组织中从事核电厂安全相关活动并具体参与核装置概率安全分析和风险知情决策的核安全专业人员。大力鼓励成员国确定合适的女性与会者。

原子能机构一般不承担与会者参加会议的差旅费和其他费用。但原子能机构可支配有限资金，用于帮助支付某些与会者的与会费用。根据具体申请通常可向每个国家的一名与会者提供此种援助，条件是原子能机构认为以与会者名义申请援助的该与会者将为这次会议做出重要贡献。财政资助申请应在指派与会者时提出。

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。原子能机构也不向会议、讲习班或培训班的与会者或顾问提供健康保险。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。

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指派名单应不迟于**2018年1月19日**通过既定的官方渠道提交这次会议的科学秘书安全评定科 Shahen Poghosyan 先生，地址：Safety Assessment Section, Division of Nuclear Installation Safety, Department of Nuclear Safety and Security, IAEA, Vienna International Centre, PO Box 100, 1400 Vienna, Austria（电话：+43 1 2600 25823；传真：+43 1 26007；电子信箱：S.Poghosyan@iaea.org）。指派名单还应抄送这次会议的行政秘书 Sanja Hadzic 女士（电子信箱：S.Hadzic@iaea.org）。应提供被指派与会者的姓名全称和详细联系资料（包括邮政通信地址、电话/传真号码和电子信箱地址）。

国际原子能机构秘书处借此机会向原子能机构各成员国致以最崇高的敬意。



2017年12月21日

附件（仅以英文印发）：资料单
参会申请表（A表）



Atoms for Peace

الوكالة الدولية للطاقة الذرية

國際原子能機構

International Atomic Energy Agency

Agence Internationale de l'énergie atomique

Международное агентство по атомной энергии

Organismo Internacional de Energía Atómica

Vienna International Centre, PO Box 100, 1400 Vienna, Austria

Phone: (+43 1) 2600 • Fax: (+43 1) 26007

Tel: Official.Mail@iaea.org • Internet: <http://www.iaea.org>

In reply please refer to: EVT1701308

Dial directly to extension: (+43 1) 2600-25823

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 the Development of a Methodology for Aggregation of Various Risk Contributors for Nuclear Facilities** to be held at the IAEA's Headquarters in Vienna, Austria, from **26 to 29 March 2018**.

The purpose of the meeting is to serve as an international forum for presentations and discussions on the current practices, recent developments and challenges in the field of risk aggregation in relation to nuclear facilities. The meeting will focus, in particular, on challenges related to risk aggregation for various sources of radioactivity, for various operational states of facilities, and for the entire spectrum of hazards. In addition, the meeting will provide a platform for discussions on the recently initiated IAEA activity aimed at the development of a Technical Report provisionally entitled *Methodology for Aggregation of Various Risk Contributors for Nuclear Facilities*.

The attached Information Sheet provides further details of the meeting.

The meeting will be held in English.

The meeting is intended for nuclear safety professionals from nuclear power plant (NPP) design and operating organizations, regulatory bodies, and technical support organizations who are engaged in activities related to the safety of NPPs and are specifically involved in probabilistic safety analysis and risk informed decision making for nuclear installations. Member States are strongly encouraged to identify suitable women participants.

The IAEA is generally not in a position to bear the travel and other costs of participants in the meeting. The IAEA has, however, limited funds at its disposal to help meet the cost of attendance of certain participants. Such assistance may be offered upon specific request to normally one participant per country provided that, in the IAEA's view, the participant on whose behalf assistance is requested will make an important contribution to the meeting. The application for financial support should be made at the time of designating the participant.

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 meetings, workshops or training courses or for consultants. 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.

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Designations should be submitted through the established official channels not later than **19 January 2018** for the attention of the Scientific Secretary of the meeting, Mr Shahen Poghosyan, Safety Assessment Section, Division of Nuclear Installation Safety, Department of Nuclear Safety and Security, IAEA, Vienna International Centre, PO Box 100, 1400 Vienna, Austria (Tel.: +43 1 2600 25823; Fax: +43 1 26007; Email: S.Poghosyan@iaea.org). Designations should also be copied to the Administrative Secretary for the meeting, Ms Sanja Hadzic (Email: S.Hadzic@iaea.org). The full names and complete contact details (including postal address, telephone/fax numbers, and email address) of designated participants should be provided.

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



2017-12-21

Enclosures: Information Sheet

Participation Form (Form A)



Technical Meeting on the Development of a Methodology for Aggregation of Various Risk Contributors for Nuclear Facilities

**IAEA Headquarters
Vienna, Austria**

26–29 March 2018

Ref. No.: EVT1701308

Information Sheet

A. Introduction

The role of probabilistic methods in safety analysis is outlined in the General Safety Requirements publication *Safety Assessment for Facilities and Activities* (IAEA Safety Standards Series No. GSR Part 4 (Rev. 1), Vienna, 2016). Paragraph 4.55 under Requirement 15 of GSR Part 4 (Rev. 1) highlights the objectives of a probabilistic safety analysis (PSA), stating, in particular, that a PSA should allow analysts to determine all significant contributing factors to the radiation risks arising from a facility or activity and provide the framework for addressing many of the uncertainties explicitly. GSR Part 4 (Rev. 1) emphasizes the importance of understanding the complete profile of risk arising from a facility or activity by providing the numerical risk estimates, including a consideration of uncertainties.

Eventually, the results of a PSA serve as the basis for safety related decision-making processes, and the complete risk profile is used in order to evaluate the priority, effectiveness and even the correctness of the safety related decisions. Certain PSA applications (such as verification of compliance with existing numerical safety goals or criteria) require a full scope PSA involving a comprehensive list of initiating events, hazards and all plant operational modes.

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Finally, in order to meet the recommendations of PSA related Safety Guides issued by the International Atomic Energy Agency (IAEA), the risk needs to be aggregated for various risk contributors for nuclear facilities with the ultimate goal being to evaluate the overall risk profile. Risk aggregation is the process of creating a combined representation of risk across the various contributors, which requires application of appropriate risk metrics and proper treatment of uncertainties.

The challenge of risk aggregation first appears on the level of a single unit, where the problem is related to the aggregation of risks coming from different hazard groups and different operational states. Then the problem of risk aggregation propagates to the multi-source level (multi-facility), where it is connected to the aggregation of risks coming from different nuclear facilities (e.g. reactor units, spent fuel pools, fuel dry storage). Different facilities might have different definitions of an undesired event and corresponding risk metrics, which could create obstacles for risk aggregation.

Eventually, the results of risk aggregation are used in the process of decision-making. In fact, there might be differences among PSA elements in terms of the heterogeneity of different elements (various conservative assumptions, bounding assessments, point estimates for hazards, etc.). The heterogeneity among various elements could lead to the unrealistic representation of the final risk profile and consequently affect the decision-making process. Therefore, during the process of risk aggregation the issue related to heterogeneity needs to be taken into account and this information needs to be transferred to the decision makers for consideration.

Proper risk aggregation is also important for communicating the risk among stakeholders (regulatory body, utilities, the public, etc.). In this context, the information about uncertainties is an important part of the visualization of risk assessment results and of further steps in the decision-making process. Therefore, risk aggregation needs to imply proper propagation of uncertainties and representation of uncertainties in quantitative results.

Review of the state of practice in this field has revealed the need for a description of the general framework of risk aggregation and, therefore, an activity aimed at the development of a Technical Report provisionally entitled *Methodology for the Aggregation of Various Risk Contributors for Nuclear Facilities* was initiated by the IAEA in 2017. It is planned that the publication will contribute to a methodology on risk aggregation and describe the state of practice in IAEA Member States.

B. Objectives and Scope

The purpose of the meeting is to serve as an international forum for presentations and discussions on the current practices, recent developments and challenges in the field of risk aggregation in relation to nuclear facilities. The meeting will focus, in particular, on challenges related to the risk aggregation for various sources of radioactivity, for various operational states of facilities, and for the entire spectrum of hazards. In addition, the meeting will provide a platform for discussions on the recently initiated IAEA activity aimed at the development of a Technical Report provisionally entitled *Methodology for Aggregation of Various Risk Contributors for Nuclear Facilities*.

C. Topics

Participants are invited to share their views and give a presentation on any of the following issues of interest:

- Lessons learned and recent developments in the field of risk aggregation for various hazards and operational states;
- Aggregation of risks coming from different facilities on site (e.g. reactor units, spent fuel pools, fuel dry storage);
- Treatment of uncertainties during the aggregation of various risk contributors for nuclear facilities;
- Application of risk metrics in the context of risk aggregation; and
- Decision-making using the results of risk aggregation.

D. Participation

Participation is solicited from nuclear safety professionals from nuclear power plant (NPP) design and operating organizations, regulatory bodies, and technical support organizations who are engaged in activities related to the safety of NPPs and are specifically involved in PSA and risk informed decision making for nuclear installations.

The designated experts should have sound knowledge and experience related to PSA and the aggregation of various risk contributors for nuclear facilities. To ensure maximum effectiveness in the exchange of information, participants should be persons actively involved in the subject of the meeting.

Participants should complete the Participation Form (Form A) and send it to the competent official authority (i.e. Ministry of Foreign Affairs or National Atomic Energy Authority) for transmission to the IAEA Secretariat to arrive no later than **19 January 2018**. The designation of a participant will be accepted only if forwarded by the Government of an IAEA Member State or by an organization invited to participate.

E. Visas

Designated participants who require a visa to enter Austria should submit the necessary application to the nearest diplomatic or consular representative of Austria as soon as possible.

Similarly, the necessary arrangements for accompanying hardware/software should also be made as soon as possible.

F. Expenditure

The costs of the meeting will be borne by the IAEA; no registration fee will be charged to participants.

Travel and subsistence expenses of participants will not be borne by the IAEA. Limited funds are, however, available to help cover the cost of attendance of certain participants. Such assistance may be offered upon specific request to normally one participant per country provided that, in the IAEA's view, the participant on whose behalf assistance is requested will make an important contribution to the meeting. The application for financial support should be made at the time of designating the participant and should reach the IAEA Secretariat no later than **19 January 2018**.

G. Presentations

Presentations should be submitted through the established official channels on items covered by the programme of the meeting (see Section C above). The submission of a presentation implies that the author intends to participate in the meeting if the presentation is accepted.

A completed Participation Form (Form A), with an indication of whether or not the designee intends to give a presentation, must be sent to the IAEA through the competent official authority by **19 January 2018**, together with the title of the presentation. The titles will be used to select presentations for the meeting and to establish the final programme.

H. Working Language

The working language of the meeting will be English. No simultaneous interpretation will be provided.

I. Proceedings

The contributed presentations and summary conclusions of the meeting will be compiled and made available as soon as possible after the meeting.

J. Local Arrangements

The meeting will be held at the IAEA's Headquarters in Vienna, Austria. It will start at 09:30 on Monday, 26 March 2018, and will end at noon on Thursday, 29 March 2018.

Additional details, together with information on local arrangements, will be sent at a later date to all selected participants.

For further questions about local arrangements please contact the Administrative Secretary of the meeting, Ms Sanja Hadzic (Tel.: +43 1 2600 25557; Fax: +43 1 2600 7 25557; Email: S.Hadzic@iaea.org).

The Scientific Secretary of the meeting is Mr Shahen Poghosyan of the Safety Assessment Section of the Division of Nuclear Installation Safety. His contact details are as follows:

Mr Shahen Poghosyan

Safety Assessment Section
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 25823

Fax: +43 1 26007

Email: S.Poghosyan@iaea.org



Participation Form

Technical Meeting on the Development of a Methodology for Aggregation of Various Risk Contributors for Nuclear Facilities

IAEA Headquarters, Vienna, Austria

26–29 March 2018

To be completed by the participant and sent to the competent official authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA, or National Atomic Energy Authority) of his/her country for subsequent transmission to the International Atomic Energy Agency (IAEA), Vienna International Centre, PO Box 100, 1400 Vienna, Austria, either electronically by email to: Official.Mail@iaea.org or by fax to: +43 1 26007 (no hard copies needed). Kindly send also a copy per email to: S.Poghosyan@iaea.org and S.Hadzic@iaea.org.

Participants who are members of an invited organization can submit this form to their organization for subsequent transmission to the IAEA.

Deadline for receipt by IAEA through official channels: 19 January 2018

Family name:		Given name(s):		Mr/Ms
Institution:				
Full address:				
For urgent communications please indicate:		Tel.:		
		Fax:		
		Email:		
Nationality:		Designating Government or organization:		
Mailing address (if different from address indicated above):				
Do you intend to submit a presentation? Yes <input type="checkbox"/> No <input type="checkbox"/>				
Title:				