



*Atoms for Peace and Development*

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

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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 Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems** (hereinafter referred to as "event") to be held in Helsinki, Finland, from **14 to 17 June 2022**.

The purpose of the event is to provide an international forum for sharing experiences and increasing awareness and understanding of approaches to life cycle management as applied to instrumentation and control system design and development. The event will also provide an opportunity to review a draft IAEA Nuclear Energy Series publication, provisionally entitled *Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems*.

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 to represent the Government at this event. 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 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 at the time of designating the participant(s) using the attached Grant Application Form (Form C).

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 through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) not later than **14 April 2022** using the attached Participation Form (Form A). Completed and authorized Participation Forms should be sent either by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed). Copies should be sent by email to the Scientific Secretary of the event, Ms Nelly Ngoy Kubelwa, Division of Nuclear Power, Department of Nuclear Energy (Email: [N.Ngoy-Kubelwa@iaea.org](mailto:N.Ngoy-Kubelwa@iaea.org)), and to the Administrative Secretary, Ms Olga Gloeckler

(Email: [O.Gloeckler@iaea.org](mailto:O.Gloeckler@iaea.org)). 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 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.



2022-03-08

Enclosures:       Information Sheet  
                          Participation Form (Form A)  
                          Grant Application Form (Form C)



**IAEA**

International Atomic Energy Agency

*Atoms for Peace and Development*

# **Technical Meeting on Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems**

**Hosted by the  
Government of Finland**

**through the  
VTT Technical Research Centre of Finland**

**Helsinki, Finland**

**14–17 June 2022**

**Ref. No.: EVT2103896**

## **Information Sheet**

### **Introduction**

Instrumentation and control (I&C) systems for nuclear facilities need to ensure that objectives for functionality and high dependability performance can be satisfied. Many modern I&C systems that utilize digital technologies can be characterized as highly complex and, as such, this can present challenges for developers and operators to meet demands for regulatory assurance of high levels of safety and security whilst demonstrating cost effectiveness for I&C projects.

The adoption of a life cycle management based approach to I&C systems in an engineering context is recognized to be an effective way in helping to resolve challenges associated with system complexity.

A well-established life cycle management can influence the design of I&C systems and their capability in satisfying requirements for a nuclear facility through the use of innovative approaches for modelling, simulation, and requirements capture and specification to support system verification and validation and, where necessary, capability development in these areas to help establish and maintain the I&C systems configuration baseline throughout all engineering life cycle phases.

Recognizing the relevance of the above-mentioned issues, at their 2021 meeting the members of the Technical Working Group on Nuclear Power Plant Instrumentation and Control recommended to the IAEA that it should initiate relevant activities to address these problems in the nuclear power engineering field. In response, the IAEA is developing a new Nuclear Energy Series report provisionally entitled *Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems* to provide guidance to Member States in this area.

## **Objectives**

The purpose of the event is to provide an international forum for sharing experiences and increasing awareness and understanding of approaches to life cycle management as applied to instrumentation and control system design and development. The event will also provide an opportunity to review a draft IAEA Nuclear Energy Series publication, provisionally entitled *Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems*.

## **Target Audience**

In view of the subject of the event, participation is limited to IAEA Member States that currently operate nuclear power plants (NPPs) or are constructing their first NPP units. Participation is solicited from representatives of nuclear facilities and regulatory bodies, utilities, technical support organizations, designers, developers, vendors, and research organizations engaged in the field of I&C design and the application of such systems at NPPs. To ensure maximum effectiveness in the exchange of information, participants should be persons actively involved in the subject matter of the event.

The event is, in principle, open to all officially designated persons. The IAEA, however, reserves the right to limit participation due to limitations imposed by the available facilities. The maximum number of participants for this event (excluding those from Finland) is 50. It is therefore recommended that interested persons take the necessary steps to secure their official designation as early as possible.

## **Working Language**

The working language of the event will be English; no interpretation will be provided.

## Structure

The draft manuscript of the new IAEA Nuclear Energy Series report, provisionally entitled *Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems*, will be provided to the participants prior to the event. This draft will serve as the basis for dialogues at the event. Participants will be requested to review selected parts of the document and to provide their remarks and comments.

## Topics

Presentations are invited on all approaches related to the life cycle management methods applied to I&C systems. The following list provides examples of presentation topics that would be appropriate for the event:

- The overall I&C engineering life cycle;
- Systems engineering in general;
- Life cycle management within I&C systems engineering;
- A model based framework for life cycle management;
- Methodologies and tools for the development of a functional requirements specification;
- Requirements traceability, design support, system validation;
- The application of innovative technologies (e.g. digital twins and simulation);
- Interactions of I&C with other disciplines;
- Regulatory/licensing aspects;
- Lessons learned from experience (case studies, operating experience, proven practices, etc.).

## 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, participants are requested to send the **Participation Form (Form A)** to their competent national authority (e.g. Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) for onward transmission to the IAEA by **14 April 2022**. Participants who are members of an organization invited to attend are requested to send the **Participation Form (Form A)** through their organization to the IAEA by the above deadline.

Selected participants will be informed in due course on the procedures to be followed with regard to administrative and financial 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. Further information can be found in the [Data Processing Notice](#) concerning IAEA InTouch+ platform.

## **Expenditure 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 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 on whose behalf assistance is requested will make an important contribution to the event.

The application for financial support should be made using the **Grant Application Form (Form C)**, which has to be stamped, signed and submitted by the competent national authority to the IAEA together with the **Participation Form (Form A)** by **14 April 2022**.

## **Visas**

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

## **Presentations**

Presentations should be prepared as Microsoft PowerPoint (ppt) or Portable Document Format (pdf) files. Computer-based projection facilities will be provided. Authors are requested to provide the Scientific Secretary with electronic copies of their presentation files in advance of their scheduled presentation slot so that the files can be duly uploaded. Electronic versions of the presentations are also necessary to ensure timely issuance of the proceedings to be prepared and distributed in electronic form.

It is not mandatory for all participants to submit a presentation. However, the IAEA welcomes and encourages contributions in this format. Time for the presentations will be limited to 25 minutes followed by a 5-minute discussion period. The number of presentations may have to be limited so as to leave sufficient time for discussions and review of the draft IAEA Nuclear Energy Series report provisionally entitled *Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems*.

## **Additional Information**

The event will start on Tuesday, 14 June 2022, at 9.30 a.m. and end on Friday, 17 June 2022, at 2.00 p.m.

The event agenda, together with information on local arrangements, will be sent to the designated participants in due course.

The local representative of the host organization (VTT) will be Mr Antti Pakonen.

Contact details:

**Mr Antti Pakonen**

Senior Scientist, Project Manager

VTT Technical Research Centre of Finland

Tekniikantie 21

ESPOO

FINLAND

Tel.: +358 401292785

Email: [antti.pakonen@vtt.fi](mailto:antti.pakonen@vtt.fi)

The host organization (VTT) will provide information to help participants in making hotel room reservations. Additionally, participants may elect to make their own bookings at hotels in the area of the event location.

## **IAEA Contacts**

### **Scientific Secretary:**

**Ms Nelly Ngoy Kubelwa**  
Division of Nuclear Power  
Department of Nuclear Energy  
International Atomic Energy Agency  
Vienna International Centre  
PO Box 100  
1400 VIENNA  
AUSTRIA

Tel.: +43 1 2600 24213

Email: [N.Ngoy-Kubelwa@iaea.org](mailto:N.Ngoy-Kubelwa@iaea.org)

### **Administrative Secretary:**

**Ms Olga Gloeckler**  
Division of Nuclear Power  
Department of Nuclear Energy  
International Atomic Energy Agency  
Vienna International Centre  
PO Box 100  
1400 VIENNA  
AUSTRIA

Tel.: +43 1 2600 22804

Email: [O.Gloeckler@iaea.org](mailto:O.Gloeckler@iaea.org)

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



# Participation Form

## Technical Meeting on Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems

**Helsinki, Finland**

**14–17 June 2022**

To be completed by the participant and sent to the competent national 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) by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) (no hard copies needed). Please also send a copy by email to the Scientific Secretary [N.Ngoy-Kubelwa@iaea.org](mailto:N.Ngoy-Kubelwa@iaea.org) and to the Administrative Secretary [O.Gloeckler@iaea.org](mailto:O.Gloeckler@iaea.org), as well as to the host organization counterpart, Mr Antti Pakonen [antti.pakonen@vtt.fi](mailto:antti.pakonen@vtt.fi).

**Deadline for receipt by IAEA through official channels: 14 April 2022**

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel.:		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	
If/as applicable: Do you intend to make a presentation?                      Yes <input type="checkbox"/> No <input type="checkbox"/> Title:		

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.



# Grant Application Form

## Technical Meeting on Development Considerations and Life Cycle Management Approaches for Nuclear Facility Instrumentation and Control Systems

Helsinki, Finland

14–17 June 2022

To be completed by the applicant and sent to the competent national 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) either by email to: [Official.Mail@iaea.org](mailto:Official.Mail@iaea.org) or by fax to: +43 1 26007 (no hard copies needed). Please also send a copy by email to the Scientific Secretary [N.Ngoy-Kubelwa@iaea.org](mailto:N.Ngoy-Kubelwa@iaea.org) and to the Administrative Secretary [O.Gloeckler@iaea.org](mailto:O.Gloeckler@iaea.org).

**Deadline for receipt by IAEA through official channels: 14 April 2022**

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms:
Mailing address:	Tel.:	
	Fax:	
	Email:	
Date of birth (yy/mm/dd):	Nationality:	

### 1. Education (post-secondary):

Name and place of institution	Field of study	Diploma or Degree	Years attended	
			from	to

### 2. Recent employment record (starting with your present post):

Name and place of employer/ organization	Title of your position	Type of work	Years worked	
			from	to

### 3. Description of work performed over the last three years:

### 4. Institute's/Member State's programme in field of event:

Date: Signature of applicant: \_\_\_\_\_

Date: Name, signature and stamp of Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority \_\_\_\_\_