IAEA
International Atomic Energy Agency
Atoms for Peace and Development

Regional Workshop on Long-Term Operation and Ageing Management of Instrumentation & Control Systems and Cables in Nuclear Power Plants

Hosted by

The International Atomic Energy Agency
IAEA Headquarters

28 July to 1 August 2025

Ref. No.: ME-RER2019-EVT2500694

Information Sheet

Purpose

The purpose of the workshop is to facilitate the exchange of knowledge on LTO and AM of I.C systems and cables in NPPs. Discussions will cover the scientific foundations and practical approaches, operating experience and feedback, as well as managerial challenges and regulatory considerations.

Working Language(s)

The working language(s) of the event will be English.

Deadline for Nominations

Nominations received after **7 April 2025** will not be considered.

Project Background

The IAEA Regional Project RER2019, Enhancing Capacity for the Subsequent Operation of Nuclear Power Plants Beyond their Existing Long-Term Operation Programmes, seeks to address the multifaceted challenges associated with the extended operation of nuclear power plants (NPPs) beyond their initially planned long-term operation (LTO) periods. With a comprehensive approach, the project emphasizes the development and enhancement of capacities in the region, encompassing legal, technical, managerial, and research considerations. It particularly focuses on challenges related to maintenance effectiveness monitoring, ageing management, technical obsolescence, environmental risks and human resource capacities during the period beyond existing LTO programs. Drawing from past experiences, the project aims to contribute to harmonized knowledge, practices and enhanced safety levels in the extended operation of NPPs, with a focus on strengthening regional capacities through coordinated efforts among Member States (MSs).

Given the growing need for sustainable energy to support current and future energy needs, it is expected that nuclear power plants (NPPs) will operate longer, and that more countries will adopt a nuclear programme in the future since nuclear energy is an acknowledged part of a balanced energy mix. The current design life of NPPs could potentially be extended to 80 years. During this extended plant life, all safety and operationally relevant instrumentation and control (I&C) systems are required to meet their designed performance requirements to ensure safe and reliable operation of the NPP during both normal operation as well as during and subsequent to design basis accidents (DBAs). This in turn requires an adequate qualification and ageing management (AM) programme that also identifies the responsibilities of all stakeholders and is duly documented in a way that can be reviewed and utilized by qualified personnel and decision makers.

A significant number of nuclear power plants around the world employ instrumentation and control systems and equipment (including cabling) that have been in service for many years. As a result, equipment ageing, and obsolescence issues are becoming increasingly prevalent. The ageing of instrumentation and control equipment has the potential to degrade the performance and reliability of such systems, which in turn can lead to a reduction in safety margins and an increase in operating and maintenance costs. The obsolescence of instrumentation and control equipment (hardware and software) can compound matters by making it difficult to source suitable replacements and to maintain adequate levels of replacement parts. Therefore, robust ageing and obsolescence management of this equipment is vital.

Expected Outputs

This event will provide guidance, good practices and lessons learned associated with:

- Ageing and obsolescence management information in relation to I&C systems and equipment and applicable to:
    - I&C systems/equipment
    - All phases in the life cycle of I&C systems/equipment
- Ageing mechanisms and degradation of I&C systems and cables
- Condition monitoring & diagnostic techniques
    - Monitoring the condition of cables and their environment
    - Cable testing methods

- Life cycle management and obsolescence mitigation
- I&C considerations for LTO
- I&C aspects of LTO
- Operating experience
- Regulatory expectations for LTO and AM of I&C and cables
- Utility strategies for compliance and periodic safety review (PSR)
- Integration of AM programs into plant asset management

Participation

The event is open to 35 participants from the project participation Member States. Each participating member state can nominate 2 participants from NPP operators/owners or technical support organizations, and 1 participant from the nuclear regulatory body.

Participants' Qualifications and Experience

Participation is solicited from engineers, who are working in nuclear power plants or research institutes that provide support to nuclear power programmes. These might include individuals involved with the AM, maintenance, technical services, and quality management.
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. It is therefore recommended that interested persons take the necessary steps to secure their official designation as early as possible.

Structure

The workshop will be structured as a 5-day event focused on presentations and discussions on challenges, lessons learned and operating experience, covering:

- LTO
- Ageing of I&C equipment and cables
- Obsolescence management
- Regulatory considerations

Scope and Nature

The workshop will consist of classroom training, experience sharing discussion. Presentations should be topical and related to practical experiences in implementation LTO as well as AM and obsolescence programmes at NPPs. Discussions on key challenges and solutions are also foreseen.

Application Procedure

Candidates wishing to apply for this event should follow the steps below:

1. Access the InTouch+ home page (https://intouchplus.iaea.org) using the candidate's existing Nucleus username and password. If the candidate is not a registered Nucleus user, she/he must create a Nucleus account (https://websso.iaea.org/IM/UserRegistrationPage.aspx) before

proceeding with the event application process below.

2. Be registered on the Nucleus page of the IAEA (https://nucleus.iaea.org/).

3. Through Nucleus, access the InTouch+ platform where the Profile is completed (My Profile tab) (https://nucleus.iaea.org/Pages/InTouchPlus.aspx).
   NOTE: The email used for TALEO and Nucleus must be the same. If not, the candidate's profile will not appear complete.

4. On the InTouch + platform, the candidate must:
   a. Finalize or update her/his personal details, provide sufficient information to establish the required qualifications regarding education, language skills and work experience ('Profile' tab) and upload relevant supporting documents;
   b. Download and complete the Designation of Beneficiary and Emergency Contact Form, and upload to InTouch+ ('Profile' tab under the personal section) specifying the document name. If already provided, kindly discard this step; and
   c. Search for the relevant technical cooperation event (EVT2500694) under the 'My Eligible Events' tab, answer the mandatory questions and lastly submit the application to the required authority.

NOTE: Completed applications need to be approved by the relevant national authority, i.e. the National Liaison Office, and submitted to the IAEA through the established official channels by the provided designation deadline.

For additional support on how to apply for an event, please refer to the InTouch+ Help page. Any issues or queries related to InTouch+ can be addressed to InTouchPlus.Contact-Point@iaea.org.

Should online application submission not be possible, candidates may download the nomination form for the meeting from the IAEA website.

NOTE: A medical certificate signed by a registered medical practitioner dated not more than four months prior to starting date of the event must be submitted by candidates when applying for a) events with a duration exceeding one month, and/or b) all candidates over the age of 65 regardless of the event duration.

Administrative and Financial Arrangements

Nominating authorities will be informed in due course of the names of the candidates who have been selected, and will at that time be informed of the procedure to be followed with regard to administrative and financial matters.

Selected participants will receive an allowance from the IAEA sufficient to cover their costs of lodging, daily subsistence and miscellaneous expenses. They will also receive either a round-trip air ticket based on the most direct and economical route between the airport nearest their residence and the airport nearest the duty station through the IAEA's travel agency AX Travel Management, or a travel allowance, or they will be reimbursed travel by car/bus/train in accordance with IAEA rules for non-staff travel.

Disclaimer of Liability

The organizers of the event do not accept liability for the payment of any cost or compensation that may arise from damage to or loss of personal property, or from illness, injury, disability or death of a participant while he/she is travelling to and from or attending the course, and it is clearly understood that each Government, in approving his/her participation, undertakes responsibility for such coverage. Governments would be well advised to take out insurance against these risks.

Note for female participants

Any woman engaged by the IAEA for work or training should notify the IAEA on becoming aware that she is pregnant.

The Board of Governors of the IAEA approved new International Basic Safety Standards for Protection against Ionizing Radiation and for the Safety of Radiation Sources. The Standards deal specifically with the occupational exposure conditions of female workers by requiring, inter alia, that a female worker should, on becoming aware that she is pregnant, notify her employer in order that her working conditions may be modified, if necessary. This notification shall not be considered a reason to exclude her from work; however, her working conditions, with respect to occupational exposure shall be adapted with a view to ensuring that her embryo or foetus be afforded the same broad level of protection as required for members of the public.

IAEA Contacts

Programme Management Officer (responsible for substantive matters):

Mr Azat Nurken
Division for Europe
Department of Technical Cooperation
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 26542
Fax: +43 1 26007
Email: A.Nurken@iaea.org

Scientific Secretary (responsible for technical matters):

Ms Nelly Ngoy Kubelwa
Division of Nuclear Power
Nuclear Power Engineering Section
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 24213
Email: n.ngoy-kubelwa@iaea.org

Administrative Contact (responsible for administrative matters):

Ms Nindyo Haryanto
Division for Europe
Department of Technical Cooperation
International Atomic Energy Agency
Vienna International Centre
PO Box 100
1400 VIENNA
AUSTRIA
Tel.: +43 1 2600 25987
Fax: +43 1 26007
Email: N.Haryanto@iaea.org