



**IAEA**

International Atomic Energy Agency

*Atoms for Peace and Development*

# **Technical Meeting on the Life Management and Modernization of Fuel Fabrication and Fuel Reprocessing Facilities**

**IAEA Headquarters, Vienna, Austria**  
and virtual participation via Cisco Webex

**22–25 August 2022**

**Ref. No.: EVT2105275**

## **Information Sheet**

### **Introduction**

The operating nuclear fuel fabrication facilities and reprocessing facilities in some of the Member States have operated for about four to five decades. Significant operating experience in life management and conduct of operation in these facilities has accumulated over this period. Further, over these years, there have been a number of process improvements, modernisation and new concepts evolved to be in pace with the current safety and regulatory requirements, including the areas of automation, remote operation and maintenance, instrumentation and control, additive manufacturing, waste minimisation, utilization of artificial intelligence technologies and other modifications. Also, many best practices related to development and implementation of new materials to minimise corrosion and failure of vital process equipment and piping, technological process changes for recovery and recycle of chemicals used in the plant, waste minimisation efforts and obsolescence management of control and instrumentation, are being practiced during operation of these operating facilities.

A significant number of these facilities around the world employ instrumentation and control (I & C) systems and equipment (including cabling) that has been in service for decades. As a result, equipment ageing, and obsolescence issues are becoming increasingly prevalent. Ageing effects have the potential to degrade the performance and reliability of instrumentation and control systems, which in turn, might

lead to a reduction in safety margins and an increase in operating and maintenance costs. This may further enhance down time of systems which might affect commercial aspects of these facilities. Obsolescence of instrumentation and control systems (hardware and software) can also compound matters by making it difficult to source suitable replacements and to sustain adequate levels of spare parts. Adopting modern smart technology-based instrumentation and control system has also its challenges vis-à-vis inter-operability of instruments of different makes, variety of protocols, verification & validation of software's, maturity and reliability of system components, familiarity of I & C personnel with system etc. Therefore, robust ageing and obsolescence management of instrumentation and control equipment is vitally important.

Besides the life management of fuel manufacturing and reprocessing facilities and related safety aspects, significant technical challenges might also arise, together with project management issues, when modernising, upgrading, and refurbishing these facilities due to obsolescence or because of new regulatory requirements to which the facilities are required to adapt/comply.

To help Member States understand the factors affecting the ageing of their Nuclear Fuel Cycle Facilities (NFCFs) and to disseminate the technical information and best practices to facilitate the implementation of the IAEA Safety Standards when operating ageing NFCFs, the IAEA intends to develop a new technical document (TECDOC) provisionally titled “Long Term Operation of Nuclear Fuel Cycle Facilities”, that will complement the already published or in progress of publication process:

- IAEA Technical Report Series No.43: Understanding and Managing Ageing of Material in Spent Fuel Storage Facilities (2006).
- Guidance on Ageing Management Programmes for Spent Nuclear Fuel Dry Storage Systems: Final Report of a CRP (in progress).
- Asset Life Cycle Management of Uranium Mining and Processing Facilities (in progress).
- Safety Report on “Ageing Management for Nuclear Fuel Cycle Facilities” (in progress).

IAEA has organised technical meetings on ageing management and life extension of nuclear fuel cycle facilities in 2019 and 2021 to gather information on ageing management related practices based on which a Nuclear Safety Series Report has been developed and is under publication process. This technical meeting is expected to provide specific information on operating experiences and good practices in the long-term operation of fuel fabrication and reprocessing facilities that will be shared by Member States will be useful for the development of this TECDOC.

## **Objectives**

The purpose of the event is to exchange technical information on lessons learned, and best practices related to the life management and modernisation of fuel fabrication and fuel reprocessing facilities.

## **Target Audience**

The event is intended for operating organizations of nuclear fuel fabrication and fuel reprocessing facilities, regulatory bodies, technical support organizations, operators of the facilities, vendor companies (such as designers, engineering contractors and manufacturers).

## **Working Language(s)**

English.

## Expected Outputs

The event will provide the basis for the IAEA Technical Document on “Long Term Operation of Nuclear Fuel Cycle Facilities”.

## Topics

The following topics related to Fuel Fabrication and Fuel Reprocessing Facilities will be discussed:

- Operating experiences and good practices in long-term operation.
- Innovative techniques, modernization and refurbishment, replacement, retrofitting and research and development with respect to life extension.
- New technologies implementation for waste minimization during all operational stages.
- Obsolescence management of control and instruments systems.
- Life management beyond design lifetime.
- Impact of ageing management on safety.

## 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 **16 May 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.

## Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed above. Approximately 20 minutes will be allotted for each presentation, including floor discussion.

## 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 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 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 **16 May 2022**.

Applications for financial support will be only considered for participants who will attend the event physically.

## 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:

[www.iaea.org/events](http://www.iaea.org/events)

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 in order to allow for timely registration. Participants will need to present an official photo identification document in order to be admitted to the VIC premises.

Note that this event will be conducted as a face to face event with the option of virtual participation via Cisco WebEx.

## 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:**

#### **Mr Kailash Agarwal**

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### **Administrative Secretary:**

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



# Participation Form

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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) 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 [K.Agarwal@iaea.org](mailto:K.Agarwal@iaea.org) and to the Administrative Secretary [N.Nath-Sirmalwatta@iaea.org](mailto:N.Nath-Sirmalwatta@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: 16 May 2022**

Family name(s): (same as in passport)	First name(s): (same as in passport)	Mr/Ms
Institution:		
Full address:		
Tel. (Fax):		
Email:		
Nationality:	Representing following Member State/non-Member State/entity or invited organization:	
If/as applicable: Do you intend to submit a paper?                      Yes <input type="checkbox"/> No <input type="checkbox"/> Would you prefer to present your paper as a poster?      Yes <input type="checkbox"/> No <input type="checkbox"/> Title: I plan to attend virtually:                                      Yes <input type="checkbox"/> No <input type="checkbox"/>		

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

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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:	
I plan to attend virtually:	Yes <input type="checkbox"/> No <input type="checkbox"/>	

### 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 \_\_\_\_\_