



Technical Meeting on Optimization of Nuclear Power Plant Operation and Maintenance for Economic Sustainability

**IAEA Headquarters
Vienna, Austria**

9–12 July 2019

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Information Sheet

A. Introduction

The current generation of operating nuclear power plants (NPPs) has reached a high level of reliability and increasing stakeholder confidence in their safe operation. Under the more liberal market conditions prevailing today, it is also important to prove that NPPs are cost-effective and competitive in relation to other energy sources. In recent years, there have been significant changes in the electricity generation industry and the electricity market itself. Consequently, it is important to try to find ways of improving and optimizing the operation and maintenance of NPPs to reduce costs. In recent years, the early shutdown of more than ten operating NPPs for economic reasons has been announced.

Traditionally, most of the maintenance activities are performed during refuelling and maintenance outages, which always require a great deal of attention and planning, because they are the main cause of NPP unavailability and make up a large proportion of a facility's operation and maintenance costs.

The goal of maintenance at an NPP is to ensure that nuclear operators have all systems available that are necessary for safe and reliable power production, and that these systems are functioning reliably and efficiently.

All these elements are part of plant operation and outage strategy; how the plant strategy is implemented is one key element that can determine the success of optimizing operation and maintenance, and therefore reduce costs without compromising safety.

Taking into account the above-mentioned issues, the International Atomic Energy Agency (IAEA) has initiated work to collect and share information among Member States on the optimization of operation and maintenance with a focus on cost reduction.

B. Objectives

The purpose of the event is to:

- Share experience and lessons learned in relation to the optimization of NPP maintenance and outage management in different Member States;
- Identify ways of improving the maintenance and effectiveness of plant outages in order to reduce operating costs;
- Enhance participants' understanding of how to implement effective maintenance and outage optimization strategies; and
- Produce a list of current issues and concerns for Member States with respect to cost reduction problems.

C. Target Audience

The meeting is targeted at nuclear industry professionals, executives, outage managers, operators, designers, vendors and regulators from Member States with established nuclear power generation programmes. It is possible that the meeting may have to be restricted to one participant per country.

Individuals attending should be staff members of operating NPPs, or from non-governmental or international organizations that represent nuclear power programmes and facilities regionally or worldwide. As such, staff members of organizations implementing nuclear energy programmes, operating organizations, and designer and vendor organizations who are involved in the execution, planning or supervision of maintenance activities and outages are encouraged to participate.

Participants should be knowledgeable and experienced in industry-wide operational practices, rules and regulations, as well as in their implementation with respect to operation and outages. They should be capable of describing and discussing, in detail, their knowledge and experience, as well as the challenges related to the optimization of operation and maintenance, with a focus on cost reduction.

The participants will be asked to give presentations on their personal/organizational/national/international experience as well as to take part in the discussions organized during the meeting to fulfil the meeting's objectives.

D. Working Language(s)

The working language of the event will be English with no interpretation provided. All communications, abstracts and papers must be submitted in this language.

E. Expected Outputs

The primary outcome of this meeting will be the identification and discussion of current and future significant challenges to nuclear electricity generation and the reduction of its cost. The discussions among leaders of the nuclear power industry will enable them to inform each other and the IAEA Member States of common challenges and the best practices, strategies and vision needed to overcome these challenges. Discussions and findings will be disseminated in the form of a meeting report, which will provide a valuable industry reference on the status and outlook of nuclear electricity generation and the challenges involved in reducing its cost.

The secondary outcome of this meeting is to determine future IAEA activities in support of addressing challenges in the cost reduction of NPP operation. It will prompt mechanisms for effective collection of industry input and feedback to organize IAEA activities aimed at assisting owner/operator organizations (utilities) in more effective manner. This outcome will be included in the meeting report as recommendations by nuclear power visionaries and strategists for the IAEA to support safe and sustainable nuclear electricity generation.

F. Topics

The main topics to be covered at the meeting are:

- Methods and essential elements of maintenance and outage optimization;
- Implementation of maintenance and outage optimization strategies;
- Maintenance and outage optimization as an ongoing process;
- Regulatory body aspects of maintenance and outage optimization;
- Challenges of maintenance and outage optimization;
- Online maintenance policies from the licensee's and regulatory body's points of view;
- Experiences and results from maintenance and outage optimization programmes; and
- Measuring the results of the maintenance and outage optimization process.

G. 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 **31 May 2019**. 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 above deadline.

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

Please note that the IAEA is in a transition phase to manage the entire registration process for all regular programme events electronically through the new InTouch+ (<https://intouchplus.iaea.org>) facility, which is the improved and expanded successor to the InTouch platform that has been used in recent years for the IAEA's technical cooperation events. Through InTouch+, prospective participants will be able to apply for events and submit all required documents online. National authorities will be able to use InTouch+ to review and approve these applications. Interested parties that would like to use this new facility should write to: InTouchPlus.Contact-Point@iaea.org.

H. Papers and Presentations

The IAEA encourages participants to give presentations on the work of their respective institutions that falls under the topics listed in Section F above.

Participants who wish to give a presentation are requested to submit it as a Microsoft PowerPoint or PDF file. It should be sent electronically to Mr Harri Tapani Varjonen, the Scientific Secretary of the event (see contact details in Section L below), not later than **31 May 2019**.

In addition, participants have to submit the title of the presentation together with 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) or their organization for onward transmission to the IAEA not later than **31 May 2019**.

I. 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 **31 May 2019**.

J. 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:

<http://www-pub.iaea.org/iaeaevents/GeneralInfo/Guide/VIC>.

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.

K. 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.

L. IAEA Contacts

Scientific Secretary

Mr Harri Tapani Varjonen

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 22863/22801

Fax: +43 1 26007

Email: H.Varjonen@iaea.org

Administrative Secretary

Ms Inessa Kovalenko

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 22801

Fax: +43 1 26007

Email: I.Kovalenko@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.

M. Event Web Page

Please visit the following IAEA web page regularly for new information regarding this event:
www.iaea.org/events/EVT1700085