A. Introduction

Events occurring at nuclear power plants are reported through the International Reporting System for Operating Experience (IRS), which is jointly operated and managed by the International Atomic Energy Agency (IAEA) and the Nuclear Energy Agency (OECD/NEA). As shown by data from the IRS, human performance continues to be the main contributor to the occurrence of significant events.

In many of the reported significant events, human errors had either direct consequences for the operational safety of nuclear installations or contributed to worsening the course of the events. Human performance is therefore considered to be a focus area for the prevention of events and for continuous performance improvement. Although some of the reported events did not have direct consequences, they could have had serious safety implications, such as loss of coolant to the core or loss of reactivity control. Other events had consequences of various degrees of severity, including: loss of off-site power, reactor trips/scrams, sticking control rods, fire in electrical equipment, radioactive spills, inadvertent activation of emergency core coolant, shutdown cooling flow disturbances, containment breach, and physical injuries to workers (in some cases resulting in death).
The reoccurrence of events with the same or similar human performance related root causes indicates weaknesses in implementing an effective programme for human performance improvement and deficiencies in some of the event analysis. Events marked by poor communication, inadequate supervision or teamwork, non-conservative decisions, or misapplication of error reduction tools continue to reoccur.

Recent peer review missions and IAEA-led Operational Safety Review Team (OSART) missions, in particular, have highlighted issues related to human performance, such as managers’ low expectations of nuclear power plant personnel behaviour.

B. Objectives and Nature of the Meeting

The purpose of the meeting is to provide an opportunity for the nuclear community to discuss national practices related to the improvement of human performance at nuclear power plants. The meeting will include discussions of strategies, programmes, self-assessment and other means of improving human performance. Results from peer review missions in this area and lessons learned from recent human performance related events will also be covered during this meeting.

Presentations will be given by IAEA staff members, meeting participants and invited experts who have extensive experience in the application of effective programmes and methods for human performance improvement. Participants will receive theoretical instruction and hands-on, example-based training on the topics listed in Section C.

The results of the discussions will serve as the basis for an IAEA publication on human performance improvement programmes.

C. Topics

The meeting will include presentations by participants from Member States and discussions on national practices, including various methods for the continuous improvement of human performance. The meeting will also cover self-assessment and other ways to review the effectiveness of programmes in this area and relevant lessons learned from recent significant events. This meeting will therefore provide an opportunity to identify key elements and good practices in relation to the continuous improvement of human performance.

The participants are encouraged to give presentations on their experiences and current practices in the area of continuous improvement of human performance. The presentations should address one or more of the following topics:

- Organizational and management provisions to ensure the continuous improvement of human performance
- Training programmes on improving human performance adopted in the nuclear industry as well as other sectors
- Error reduction tools at the individual and team level
• Continuous improvement of human performance through observation and coaching
• Effective defences against human error in work preparation and conduct
• Use of risk analysis tools for timely identification of error traps
• Improving human performance by innovative use of electronic technology
• Error reduction tools in configuration control
• Workplace strategies to improve human performance
• Monitoring and self-assessment of human performance improvement programmes
• Lessons learned from recent significant events related to human performance
• Human factors in event investigations and considerations for improving investigative methods

Participants who plan to give a presentation should submit an abstract or draft presentation to the Scientific Secretary of the meeting (see Section J below) by 6 May 2016.

D. Participation

The meeting is intended for staff members of nuclear operating organizations, regulatory bodies, technical support organizations and other relevant organizations engaged in the construction, commissioning and operation of nuclear power plants. Participation is solicited mainly from mid- to senior level managers and professional staff involved in the management of performance improvement programmes, particularly those programmes seeking the improvement of human performance. Participants should be actively involved in the subject of the meeting and have considerable experience in related activities.

Participants should complete the attached Participation Form (Form A) and send it to the competent official authorities (Ministry of Foreign Affairs or National Atomic Energy Authority) for transmission to the IAEA Secretariat (see Section J below), no later than 29 April 2016. The nomination of a participant will be accepted only if forwarded by the Government of an IAEA Member State or by an organization invited to participate.

The meeting is, in principle, open to all officially nominated persons. The IAEA, however, reserves the right to limit participation in case this becomes necessary due to limitations imposed by the available seating capacity. It is, therefore, recommended that interested persons take the necessary steps for securing an official nomination as early as possible.

E. Visas

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.
F. Expenditure

The costs of the meeting are to 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. However, limited IAEA funds are available to help cover the cost of participants from countries eligible to receive technical assistance under the IAEA’s technical cooperation programme. Such assistance can be offered, upon specific request, to 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 nominating the participant, using the Nomination Form for Meetings/Workshops available from: http://www.iaea.org/technicalcooperation/How-to-take-part/In-meetings-WS/index.html.

G. Insurance

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.

H. Working Language

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

I. Local Arrangements

The meeting will be held at the IAEA’s Headquarters in Vienna, Austria, specifically in Room M7 in the M Building of the Vienna International Centre (VIC), and will start at 10.00 a.m. on Monday, 30 May 2016, and will end at 12.00 p.m. on Friday, 3 June 2016.

The meeting materials, agenda and local details, together with information on local arrangements, will be sent to designated participants once the completed Participation Forms have been received.

Approved grants will be issued in the form of a lump sum payment that usually covers only part of the cost of attendance.
J. Organization

Scientific Secretary:

Mr Dian Zahradka
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 24262
Fax: +43 1 26007
Email: D.Zahradka@iaea.org

Administrative Secretary:

Ms Yuliya Palka
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 26069
Fax: +43 1 26007
Email: Y.Palka@iaea.org

Subsequent correspondence on scientific matters should be sent to the Scientific Secretary and correspondence on other matters related to the meeting to the Administrative Secretary.
# Participation Form

**Technical Meeting to Share Lessons Learned from Recent Human Performance Related Events at Nuclear Power Plants and Considerations for Performance Improvement**

**IAEA Headquarters, Vienna, Austria**

**30 May–3 June 2016**

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).

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: 29 April 2016**

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