

IAEA-CN-260



IAEA

International Atomic Energy Agency

**Third International Conference on
Human Resource Development for
Nuclear Power Programmes:
Meeting Challenges to Ensure the
Future Nuclear Workforce Capability**

Gyeongju, Republic of Korea

28–31 May 2018

Organized by the

International Atomic Energy Agency (IAEA)

Hosted by the

Government of the Republic of Korea

through the

Korea Hydro & Nuclear Power Company (KHNP)

Announcement and Call for Papers

A. Background

In 2010, the International Atomic Energy Agency (IAEA) held its first international conference on human resource development in the nuclear industry. Focusing on the theme of “Introducing and Expanding Nuclear Power Programmes”, this first conference highlighted the importance of human resources and of providing the necessary support in this area for countries embarking on new nuclear power programmes. The IAEA’s second conference on this subject, held in 2014, concentrated on capacity building, human resource development, attracting the next generation, education and training, nuclear knowledge management and knowledge networks. Both conferences were very well attended and supported by a broad range of participants and experts across the nuclear sector. The IAEA has continued to receive requests for further support, guidance and advice from embarking countries, countries moving through the phases of construction and commissioning, as well as from mature countries seeking to extend the working life of their existing nuclear power plants. This is clear evidence that human resource development continues, for many Member States, to be a key consideration for the successful future operation of their nuclear assets.

The nuclear field is now witnessing many constantly changing human resource challenges, affecting stakeholders that range from embarking countries which are moving through the IAEA’s three-phase Milestones approach¹ to organizations involved in full scale operations. The latter include any organizations directly or indirectly involved with nuclear energy that need a nuclear knowledgeable workforce, such as nuclear power plants, research reactors, radioactive waste management facilities and fuel cycle facilities seeking operational lifetime extensions and moving into decommissioning. Many of the development needs, opportunities for improving human resource development capabilities, and lessons learned are similar for all these working populations. The IAEA’s third conference on this area, to be held in 2018, will review, across all these stakeholders, the current state of nuclear human resource development (including nuclear education and training) and will address issues such as availability and opportunities for sharing of relevant infrastructure.

B. Objectives

The objectives of the conference are to:

- Review developments in the global situation relating to human resource development (HRD) since the second IAEA conference on this subject (2014);
- Provide the participants with practical solutions that they can use at the organizational, national and international level to develop and maintain the human resources needed to support the safe and sustainable operation of nuclear power programmes;
- Emphasize the role of human resources and capacity building programmes at the national and organizational level for achieving safe, secure and sustainable nuclear power programmes;

¹ As outlined in: *Milestones in the Development of a National Infrastructure for Nuclear Power* (IAEA Nuclear Energy Series No. NG-G-3.1 (Rev. 1), Vienna, 2015). Available online at: <http://www-pub.iaea.org/books/IAEABooks/10873/Milestones-in-the-Development-of-a-National-Infrastructure-for-Nuclear-Power>.

- Provide a forum for information exchange on national, as well as international, policies and practices;
- Share key elements and best practices related to the experience of Member States that are introducing, operating or expanding nuclear power programmes;
- Highlight the practices and issues regarding HRD at the organizational and national level;
- Consider education and training programmes and practices;
- Emphasize the role of nuclear knowledge management for knowledge transfer and HRD;
- Elaborate on the role and scope of various knowledge networks; and
- Discuss practical considerations in the field of organizational culture and leadership in the nuclear sector.

C. Format and Topics

A preliminary programme will be made available on the conference web page (see Section M) well in advance of the conference. The final programme and the contributed papers will be available upon registration at the conference.

The conference will consist of an opening plenary session, four topic-specific sessions, and a closing plenary session.

To meet the conference's objectives, each topical session will have the following format:

- Presentations by invited keynote speakers;
- A set of presentations that supplement specific areas within the topical session and stimulate discussion among conference participants; and
- A set of interactive presentations that present state-of-the-art information and knowledge in the subject area.

Opening Plenary Session

This session will include:

- A recap and review of the 2014 international conference, and in particular of its key outcomes; and
- An overview of the current capacity building goals and strategies, with an emphasis on the importance of human resources, education and training, including reference to various other IAEA activities in the same area, including meetings on human and organizational factors.

Session 1: Attract, Recruit and Retain a High Quality Nuclear Workforce

This session will cover the following topics:

- 1) Workforce planning techniques, models and practices, including case studies of best practices and lessons learned in workforce planning for new build, operations and decommissioning;
- 2) Methods of attracting high quality personnel to careers in the nuclear industry, including examples of successes and challenges that have been overcome, instruments to support 'pipeline feeders' and next generation links;
- 3) Recruitment and selection strategies, techniques and processes to help overcome the challenges in the current recruitment climates; and
- 4) Accessing the global nuclear talent pool and multinational workforce challenges, retention strategy, techniques and practices, including use of different employment contract models and flexible contracts that attract part-time workers and nuclear industry retirees.

Session 2: Development of Individuals and Teams within the Organizations

This session will cover the following topics:

- 1) Managing employee engagement, recognising and rewarding individuals or teams;
- 2) Ensuring effective teamwork, both internal to the organization and with suppliers and contractors;
- 3) Developing leaders to provide positive coaching when setting and communicating organizational values, ethics and standards; and
- 4) Effective career development for a nuclear worker life cycle.

Session 3: Education, Training and Qualification of a Nuclear Workforce

This session will cover the following topics:

- 1) The importance of educational courses to develop and support the nuclear workforce;
- 2) Modern developments, including 'co-operation' in initial and continuing training and qualification programmes for a nuclear workforce;
- 3) The role of future innovation and technology in nuclear education and training — opportunities and challenges;
- 4) Authorization, licensing and accreditation requirements for the future nuclear workforce;
- 5) Role of knowledge management and transfer across the HRD life cycle and understanding the challenges of task based vs knowledge based worker programmes;
- 6) Effectiveness of the training programmes in driving performance improvements and the question of 'return on investment'; and
- 7) The role of the nuclear instructor and trainer — models and activities.

Session 4: Organizational Culture and Its Impact on the Workforce

This session will cover the following topics:

- 1) Establishing a learning culture within organizations;
- 2) Workforce performance and monitoring for performance improvement, identifying performance gaps and their underlying causes;
- 3) Anticipating future staffing, competence and performance needs for the right organizational culture;
- 4) Fitness for duty — requirements for a nuclear workforce;
- 5) Leadership and culture for the nuclear sector
- 6) Organizational culture that sustains operational safety and security; and
- 7) Human performance tools and techniques.

Closing Plenary Session

The closing session will include short presentations followed by a panel discussion.

To conclude the conference, the Chairperson and the individual session chairs will participate in a panel discussion on key issues related to HRD and capacity building and will present their summaries.

D. Contributed Papers and Interactive Presentations

Concise papers on issues falling within the topics outlined in Section C may be submitted as contributions to the conference. All papers, apart from invited papers, must present original work and should not have been published elsewhere.

(a) Submission of abstracts

Anyone wishing to present a paper at the conference is requested to submit first an abstract of not more than 300 words. The abstract should give enough information on the contents of the proposed paper to enable the Programme Committee to evaluate it. Authors should state to which of the topics outlined in Section C their contribution relates.

Instructions on how to upload the abstract to the conference's web browser-based file submission system (IAEA-INDICO) will be available on the conference web page (see Section M) as of **August 2017**. The abstract **must** be submitted through this system by **30 November 2017**. No other form of submission will be accepted. The abstracts should also be submitted together with a completed Participation Form (Form A) and Form for Submission of a Paper (Form B) to the competent official authority (see Section E) for subsequent electronic transmission to the IAEA (Official.Mail@iaea.org), to be received by the IAEA by **30 November 2017**. In addition, the abstracts must be sent

electronically to: HRDconference2018@iaea.org. Introductory and general matters should not be included.

(b) Acceptance of papers for oral or interactive presentation

The abstract will be considered only if the Participation Form (Form A) and Form for Submission of a Paper (Form B) have been received by the above-mentioned deadline and through the established official channels.

A limited number of abstracts will be selected for submission of a full paper and, consequently, for either oral or interactive presentation.

The oral presentation should be delivered during the sessions of the conference.

An interactive presentation should provide concise information related to the proposed paper and its delivery method can take the form of, but is not limited to, multimedia presentations, demonstrations, simulations and models and videos, together with any handout material the author may wish to share.

Authors will be notified by **12 January 2018** as to whether their abstracts have been accepted and, if so, whether the full papers should be delivered as oral or interactive presentations.

Authors will be asked to provide their full length paper (a maximum of 4 pages) by **9 February 2018**. Guidelines and a template for the preparation and submission of full papers will be available on the conference web page.

The papers that have been accepted by the Programme Committee will be reproduced in unedited form in the *Book of Contributed Papers*, which will be distributed to all participants at registration.

The Secretariat reserves the right to exclude papers that do not comply with its quality standards or that do not apply to one of the topics outlined in Section C above.

(c) Proceedings

The proceedings of the conference will be published by the IAEA and made available on the IAEA website soon after the conference.

E. Participation and Registration

The focus of this conference is on capacity building policies and strategies, as well as on their implementation by the diverse stakeholders associated with nuclear power programmes. Thus, potential attendees and relevant organizations would include:

- Line managers, human resources managers and specialists, and training managers and specialists from the organizations that operate, regulate or support nuclear power plants and other nuclear facilities;
- Government officials responsible for the introduction or expansion of nuclear power programmes;
- Administrators, department chairs and teaching/research staff from universities, polytechnic institutes and training centres;

- Education and training specialists, knowledge management specialists and trainers from nuclear industry supplier organizations;
- Representatives of technical and scientific support organizations, vendors and supplier trade organizations that support the nuclear industry;
- Leaders of national and international organizations that establish policies and programmes in areas related to HRD that are of importance to the nuclear industry;
- Managers and specialists from organizations that communicate with nuclear industry stakeholders, particularly potential future employees in the nuclear industry; and
- Representatives of the next generation of nuclear professionals.

All persons wishing to participate in the conference are requested to send a completed Participation Form (Form A) and, if applicable, the Form for Submission of a Paper (Form B) and the Grant Application Form (Form C) to their competent national authority (e.g. Ministry of Foreign Affairs or National Atomic Energy Authority), or to one of the organizations invited to participate, for subsequent electronic transmission to the IAEA (Official.Mail@iaea.org).

A participant will be accepted only if the Participation Form is transmitted through the competent national authority of a Member State of the IAEA or by an organization invited to participate.

Participants whose official designations have been received by the IAEA will receive from the IAEA further information approximately three months before the opening of the conference. This information will also be posted on the conference web page (see Section M).

Please note that in the last quarter of this year it will become possible to manage the entire designation process electronically, when the new InTouch+ (<https://intouchplus.iaea.org>) facility — the improved and expanded successor to the InTouch platform currently used for the IAEA's technical cooperation events — will be made available for all regular programme meetings. Using InTouch+, prospective participants will be able to apply for meetings 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.

F. 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 designated participants to the conference. The IAEA has, however, limited funds at its disposal to help cover the cost of attendance of selected specialists from Member States eligible to receive technical assistance under the IAEA's technical cooperation programme. Such assistance may be offered upon specific request 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 conference.

If governments wish to apply for a grant on behalf of one of their specialists, they should address specific requests to the IAEA to this effect. Governments should ensure that applications for grants are:

1. Submitted by **30 November 2017**;
2. Accompanied by a completed and signed Grant Application Form (Form C);

3. Accompanied by a completed Participation Form (Form A).

Applications that do not comply with the above conditions cannot be considered.

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

G. Working Language

The working language of the conference will be English. All communications and papers must be sent to the IAEA in English.

H. Conference Venue and Accommodation

The conference will be held at the Hwabaek International Convention Centre, Gyeongju, Republic of Korea. Detailed information on accommodation and other relevant matters will be sent directly to all designated participants approximately three months before the opening of the conference. This information will also be made available on the conference web page (see Section M) as soon as possible.

I. Exhibition

A limited amount of space will be available for commercial vendors' displays/exhibits during the conference. Further information will be posted soon on the conference web page (see Section M).

J. Visas

Designated participants who require a visa to enter the Republic of Korea should submit the necessary application to the nearest diplomatic or consular representative of the Republic of Korea at least three months before they intend to travel.

K. Key Deadlines

Submission of Form for Submission of a Paper (Form B) and abstract:	30 November 2017
Submission of Grant Application Form (Form C):	30 November 2017
Notification of acceptance of papers:	12 January 2018
Submission of accepted full paper (4 pages max.):	9 February 2018

L. Conference Secretariat

General contact details of the Conference Secretariat:

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Subsequent correspondence on scientific matters should be sent to the Scientific Secretaries of the conference and correspondence on administrative matters to the IAEA Conference Services Section.

M. Conference Web Page

Please visit the IAEA conference web page regularly for new information regarding this conference:

<https://www.iaea.org/events/human-resource-development-conference-2018>