



International Conference
on
Fifty Years of Nuclear Power
- the Next Fifty Years

27 June–2 July 2004
Obninsk, Russian Federation

Organized by the
International Atomic Energy Agency

Hosted by the
Government of the Russian Federation

ANNOUNCEMENT AND CALL FOR PAPERS

1. BACKGROUND

Two important early milestones in the history of nuclear power will be celebrated in 2004. The first marks 50 years of electricity produced by nuclear power for a national grid, which took place in Obninsk in June 1954. The second milestone is the 50th anniversary of the UN General Assembly resolution that called for international co-operation in developing the peaceful uses of atomic energy, expressing “the hope that the International Atomic Energy Agency will be established without delay” and declaring “the interest and concern of the General Assembly in helping in every feasible way to promote the peaceful applications of atomic energy”.

It is appropriate at this time to consider the extent to which the IAEA and the international community have achieved the ideals of five decades ago, and review the lessons learned from the first fifty years of electricity supply from nuclear power stations.

2. OBJECTIVE OF THE CONFERENCE

The objective of this conference is to:

- celebrate the achievements over half a century of the peaceful implementation of nuclear energy;
- provide historical perspectives on the technical issues and benefits that have arisen from the use of nuclear energy; and
- consider the future applications of nuclear power over the next fifty years.

3. SCOPE AND MAJOR ISSUES OF THE CONFERENCE

The conference will provide a platform for discussion of the current and future role of nuclear energy. It will review what has been learnt from 50 years of electricity generation from nuclear energy and 50 years of international co-operation in the peaceful applications of nuclear power, and then consider how these lessons are relevant to the future.

Papers that provide insights into the experience over the last 50 years and that take this insight into predictions, proposals and opportunities for improvement over the next fifty years are welcome. Papers are also welcome from non-government organizations working the field of energy, as well as papers from younger members of the nuclear community expressing their hopes and ideas for the future.

The following main topics and specific issues are identified as a guide for authors:

Historical perspectives

Electricity generation from nuclear power as a contribution to a cleaner environment
Development of proven technologies
Safe operational record, comparative risk
Environmentally benign nuclear record
International co-operation in nuclear developments
Electricity from nuclear power in response to identified energy needs
Lessons learned
Technology diffusion, spin-offs and crossover
Other technological benefits of nuclear power

The role of the IAEA

Standard setting and international regulations
International collaboration and exchange of good practices
International conventions and treaties
International assessment programmes
The role of the IAEA in the development and growth of nuclear energy

Future opportunities

What are the roles for nuclear energy?
Environmental necessity through the minimization of carbon emissions
Non-electricity production applications
World energy demand forecasts
Technology developments and improvements
Application of lessons learned
Nuclear energy extension of use to other countries

Reactor design and evolution of operations

Performance and management improvements

Design evolution and future developments

Avoidance of refuelling and fuel cycle with new designs

Design to avoid the problems of the past, lessons learned and experience

Design to minimize future problems, decommissioning, waste minimization, proliferation resistance, ageing management, etc.

Evolution of fuel utilization

Fuel cycle developments, history and alternatives

Sustainability

Fuel supplies

Waste management and/or storage experience

Final waste disposal experiences

Fuel cycle security and non-proliferation

Licensing

Evolution of national and international licensing approaches

Future licensing requirements

International regulation in the future?

Simplification

Licence renewal

Need for nuclear energy/comparative risks and benefits

Energy demand forecasts, and role of nuclear

Kyoto Protocol, clean air, greenhouse gases, global warming

Environmental benefits

Accessibility of nuclear technology for smaller countries

Other developments in nuclear power

Desalination: water is the next technical challenge

Hydrogen production: benefits and implications

Process heat: replacing the carbon economy

Transport

Small portable reactors

Accelerator driven systems

Power for remote locations

Space reactors

Technical examples of the lessons learned

Design features

Operation and maintenance

Advice for the future to avoid previous problems

National experience with the technical issues

The future staffing of the industry

How to capture the knowledge and experience of the last fifty years

How to encourage young engineers and scientists that nuclear is the future

Public communication

How to present the technical message to the public

How to achieve greater acceptance

4. PROGRAMME STRUCTURE

The conference will consist of a majority of Plenary Sessions with oral presentations. Parallel sessions may be arranged for more detailed technical issues, which would then be reported to the conference in the Plenary Session. There will be keynote presentations by invited speakers. Time will be available for discussions and panel sessions. There will also be poster sessions.

5. EXHIBITION

A limited amount of space will be available at the conference for historical and futuristic displays/exhibits by national bodies and/or commercial vendors. Interested parties should contact the Scientific Secretary.

6. CONTRIBUTED PAPERS AND POSTERS

Concise papers on issues falling within the topics listed in Section 3 should be submitted as contributions to the conference. All papers, apart from invited review papers, must present original ideas; they should not have been published elsewhere.

In order to provide ample time for discussion, the number of papers that can be accepted for oral presentation is limited. If there are more relevant and high quality papers submitted for selection than can be accommodated, poster sessions may be arranged. The authors should indicate if they would wish to present their contribution as an oral presentation or a poster. The IAEA reserves the right to refuse the presentation or publication of any paper that does not meet the expectations based on the information given in the extended synopsis.

(a) Submission of Extended Synopsis

Those wishing to present a paper or a poster at the conference must submit an electronic version of the Extended Synopsis of up to 600 words, in English, **before 10 December 2003** to the following e-mail address at the IAEA:

papersnenp114@iaea.com

Authors are urged to make use of the Synopsis Template in Word 2000 on the conference web page. The specifications and instructions for preparing the synopsis and how to use the template are given in the attached "Instructions on how to prepare the synopsis and how to submit it electronically". Also attached is a "Sample Synopsis".

A copy of the synopsis, together with the completed Form for Submission of a Paper (**Form B**) and the Participation Form (**Form A**), must be sent to the competent national authority for official transmission to the IAEA.

Please note that the synopsis will be accepted by the Programme Committee only if the Participation Form A and Paper Submission Form B have been received by the IAEA through official government channels. Deadline for receipt of the **official forms is 20 January 2004.**

(b) Acceptance of papers/posters

Authors will be notified **in February** whether their paper(s) have been accepted by the Programme Committee on the basis of the synopsis submitted. At the same time, authors of accepted papers will be advised if the synopsis has been accepted for oral presentation or for presentation as a poster. They will also be informed of the paper number assigned and the session of presentation and, in the case of an oral paper, about the deadline and guidelines for submission of the full paper. The accepted synopsis will be reproduced in unedited form in the Book of Extended Synopses.

7. LOCATION AND DATE

The conference will be held at the Conference Hall of the State Research Centre, in Obninsk, Russian Federation. The opening of the conference will take place on Monday 28 June 2004. Registration and the Welcoming Reception will take place on Sunday 27 June 2004.

8. PARTICIPATION

All persons wishing to participate in the conference must complete a Participation Form (see attached Form A) and send it as soon as possible to the competent official authority (Ministry of Foreign Affairs or national atomic energy authority) for subsequent transmission to the IAEA. A participant will be accepted only if the Participation Form is transmitted through the government 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 further information on the Symposium approximately two to three months before the meeting. This information will also be posted on the web page:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=114>.

9. EXPENDITURES

No registration fee is charged to participants.

As a general rule, the IAEA does not pay the cost of attendance, i.e. travel and living expenses, of participants. However, limited funds are available to help meet the cost of attendance of selected specialists mainly from developing countries with low economic resources. Generally, not more than one grant will be awarded to any one country.

Governments wishing to apply for a grant on behalf of a participant should address specific requests to the IAEA Secretariat. Governments should ensure that applications for grants:

(a) are submitted by **20 January 2004**;

(b) are accompanied by a duly completed and signed Grant Application Form (see attached Form C).

Applications that do not comply with conditions (a) and (b) cannot be considered.

The grants awarded will be in the form of lump sums that usually cover only part of the cost of attendance.

10. CONFERENCE PROCEEDINGS

The proceedings of the meeting will be published by the IAEA in camera-ready, unedited form as a CD-ROM as soon as possible after the meeting. All participants will receive a free copy of the proceedings.

11. WORKING LANGUAGE

The working languages of the conference will be English and Russian. All communications, and papers must be sent to the Agency in one of the two languages.

12. DISTRIBUTION OF DOCUMENTS

A preliminary programme of the conference will be sent to the participants before the meeting. The final programme and the Book of Extended Synopses will be available at registration.

13. ACCOMMODATION

Detailed information on accommodation and other information of interest will be sent to all designated participants two to three months before the meeting and it will also be available on the conference web page:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=114>.

14. VISAS

Designated participants who require a visa to enter the Russian Federation should submit the necessary application(s) to the nearest diplomatic or consular representative of the Russian Federation as early as possible but at least one month before the meeting.

15. PROGRAMME COMMITTEE

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16. SECRETARIAT

The address of the Secretariat is:

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The Scientific Secretary of the Conference is Mr. R. I. Facer, Nuclear Power Engineering Section, Division of Nuclear Power (telephone extension 22806, e-mail address: R.I.Facer@iaea.org). Conference organization is provided by Ms H. Schmid, Conference Services Section, Division of Conference and Document Services (telephone extension 21316, e-mail address: H.Schmid@iaea.org).

17. CHANNELS OF COMMUNICATION

The Participation Form (Form A) and the Form for the Submission of a Paper (Form B), together with a paper copy of the synopsis, and, if applicable, the Grant Application Form (Form C), should be sent to the competent national authority (Ministry of Foreign Affairs or national atomic energy authority) for official transmission to the IAEA.

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

18. CONFERENCE WEB PAGE

Please visit the IAEA conference web site regularly for information regarding this conference at: <http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=114>.