



IAEA

International Atomic Energy Agency

Workshop on Erosion-Corrosion (E/C) including Flow Accelerated Corrosion (FAC) and Environmentally Assisted Cracking (EAC) Issues in Nuclear Power Plants

21~ 23 April 2009

World Trade Centre, Moscow Russian Federation

Organized by the

International Atomic Energy Agency (IAEA)

Hosted by the

Rosenergoatom, Russian Federation

ANNOUNCEMENT AND CALL FOR PAPERS

1. BACKGROUND

Nuclear power plants worldwide are showing continuous improvements in their safety and economic performance. However, the IAEA has noted recurring problems associated with material failures which appear to be caused by phenomena that have long been identified as problematic for nuclear power plants (NPPs).

In order to reduce the likelihood such failures, a combination of a wide spectrum of activities including effective use of operational experiences, continued research into the mechanisms of material failure, increased openness in sharing information, avoidance of complacency, and improvement of management and regulatory systems must be employed. The importance of such activities will be further emphasized in light of ageing of the world's nuclear fleet. As NPP ageing continues, the importance of the issue of aging of equipment and ageing related impacts on material and the managerial improvement needed to deal with these issues will be further highlighted

The IAEA recognizes that Erosion-Corrosion (E/C) including Flow Accelerated Corrosion (FAC) and Environmentally Assisted Cracking (EAC) are significant ageing degradation mechanisms for various types of safety components in nuclear power plants. FAC/EAC is now considered one of the most important issues to be addressed in order to predict remaining service life and confirm the structural integrity of components as part of the safety assessment for plant life management and safe long term operation. In this regard, it would be useful and beneficial for Member States and for the IAEA to provide opportunities to exchange information on this issue and compare different approaches that have successfully addressed the issue.

2. PURPOSE OF THE MEETING

The purpose of workshop (WS) is to promote international information exchange and benchmarking of E/C including FAC/EAC evaluation methodologies with possible recommendations for their application in nuclear power plants (NPPs) and to discuss possibilities for benchmarking of related computer codes, options for systematic summarizing of international experience with the codes and methodologies, including possible funding schemes for implementation of such activities.

The discussion includes lessons from recent events, results from research programmes, experiences and practices, ownership and responsibility, managing operational experience and regulatory aspects. The discussion at the meeting will be summarised into an Agency publication.

3. STRUCTURE OF THE MEETING

The meeting consists of 4 main topics besides opening and closing sessions. Those are:

Topic 1: Report of Operating Experience Feedback on EC including FAC/EAC

This topic is intend to share information on operating experiences on EC including FAC/EAC involving material and managerial issues affecting long term operation of NPPs, which have implications for technical aspects as well as safety management aspects. The overview of world material issues of NPPs will be presented including incidents on Reactor Pressure Vessel (RPV), pipe thinning and rupture, and fluid interactions with structures. Some countries will be invited to present the real incident cases.

Topic 2: Scientific Basis and Practical Measures to prevent FAC/EAC Damage

This topic is to provide a technical updates on material issues and to identify outstanding technical issues in the field and to discuss possibilities for benchmarking of related computer codes, options for systematic summarizing of international experience with the codes and methodologies, including possible funding schemes for implementation of such activities. Presentations will cover technical issues related to the topic of the meeting such as:

- Erosion-Corrosion mitigation approaches
- Behaviour and mechanism / Inspection and monitoring of pipe thinning and rupture
- Evaluation methods for FAC/EAC in NPPs
- Mechanical, thermal and corrosion fatigue
- FAC analysis with software tools
- Benchmarking of related computer codes,

Presentations will be followed by a panel discussion comprised of international technical experts to identify outstanding technical issues in this field.

Topic 3: Managerial Issues

This topic is to share lessons learned on the aspect of successful management systems that have addressed the technical issues associated with EC including FAC and EAC issues, and to identify outstanding managerial issues in the field. Presentations will cover management system issues such as:

- Managing operational experience
- Qualification of contractors competence and relationship with contractors
- Management system/ decision making process
- Assurance of a healthy and safe working environment

Presentations will be followed by a panel discussion comprised of international management system experts for identifying outstanding management issues in this field.

Topic 4: Regulatory Aspects

This topic is to discuss the sharing of roles and responsibilities among parties involved, and polices on regulatory aspects. The following topics will be covered by presentations:

- Regulatory vs. non-compulsory inspection
- Regulatory control or monitoring of NPP sub-contractors
- Risk and reliability evaluation of components and piping
- Incident Report System (IRS) topical study on corrosion cracking events

4. PARTICIPATION

Expected participants are senior level experts from regulatory authorities, utilities, vendors and R&D organisations, involved in the topics that this meeting is targeting. Participants should be officially designated by their relevant governmental authority (Ministry of Foreign Affairs or National Atomic Energy Authority) and should send by fax or e-mail, the attached participation form before **31 December 2008** to the Scientific Secretary of the Meeting. All participants should be registered through a designated channel mentioned above to participate in the meeting.

5. ORGANISATION OF THE MEETING

The working language of the meeting will be English. Simultaneous English-Russian and Russian-English interpretation would be provided. Scientific secretaries of the meeting are:

IAEA Scientific secretariat:		IAEA Administration officer
Ki Sig Kang Division of Nuclear Power Tel: +43 1 2600 22796 Fax: +43 1 2600 29598 E-mail: ki-sig.kang@iaea.org	Mark Kearney Division of Nuclear Installation Safety Tel: + 43 1 2600 22013 E-mail: M.Kearney@iaea.org	Lilly Makil Division of Nuclear Power Tel: +43 1 2600 22789 Fax: +43 1 2600 29598 E-mail: L.Makil@iaea.org
Host organization:	Technical Director	Administration manager
	Mr. Vladimir Lovchev, Head of Material Studies Direction, Rosenergoatom Moscow, Russian Federation t. +7 495 710 4895 f. +7 495 710 6269 e-mail: lovchev@rosenergoatom.ru	Mr. Sergey Kharlampiev Department of International Relations Rosenergoatom Moscow, Russian Federation T. +7 499 9492474 f. +7 499 9492553 kharlampiev@rosenergoatom.ru

6. ABSTRACTS AND PAPERS

Papers will be selected on the basis of abstracts and will be processed on receipt of them. Any individual requiring early confirmation of acceptance of their presentation is therefore encouraged to submit his/her abstract as soon as possible. The abstract should be in A4 page not exceeding 500 words and should be sent electronically to the Scientific Secretary, Mr. Ki-Sig Kang (E-mail: FAC@iaea.org) not later than **31 December 2008**. Authors will be notified upon the acceptance by **15 February 2009**.

Those authors whose papers are accepted should submit the original of their full-length papers to Ki-Sig Kang before the start of the meeting. The abstract should be included on the first page of the paper.

The Manuscript should be typed; single spaced on an A4 size paper in Times New Roman 11 point and should include original illustrations and black and white glossy prints of all photographs. The

paper should be not more than 12 pages (including Figures). The author's name(s) should be given on the first page of the paper as follows:

TITLE OF PAPER By Mr John No Name*, George Young**, Willy Spring*** * Position and Address ** Position and Address ***Position and Address
ABSTRACT Based on abstract provided previously, but to include major conclusions.
KEY WORDS Include a list of keywords at bottom of first Page

In addition to the Master (paper) copy, an electronic version of the paper is necessary to ensure quality and timely issuance of the proceedings to be prepared and distributed in electronic form (CD-ROM). It is highly desirable to use an internationally used software programme, preferably in MS Word format. Further details of format and layout of the Manuscript can be obtained from Ki-Sig Kang.

7. PRACTICAL INFORMATION

The Workshop will take place at the World Trade Centre located at Moscow, Russian Federation
Address : 123610, Russia, Moscow, Krasnopresnenskaya nab., 12

Workshop logistics and accommodation

On request participants would be accommodated in a hotel in Moscow. The Accommodation form (attached) should be completed and send directly to Mr. Sergey Kharlampiev, the Administration Manager, not later than **1 March 2009**. Transportation between these hotel(s) and the meeting venue will be arranged by hosts. Otherwise, responsibility for booking her/his own hotel as well as for transportation between her/his hotel and the meeting venue rests with a participant.

Each participant is responsible for her/his own transfer airport-hotel and vice versa.
Tourist information related to the workshop venue can be found on <http://www.wtcmoscow.ru>.

8. VISA

Participants who require a VISA to enter Russia should submit the necessary application to the nearest diplomatic or consular representative of Russia as soon as possible. The necessary VISA support is to be provided by the host organization. The form "Personal Data for Visa Support" with the copy of passport is to be sent directly to Mr. Sergey Kharlampiev, the Administration Manager, **not later than 1 March 2009**. For accompanying persons, a separate "Personal Data for Visa Support" form with the copy of passport has to be sent.

Mr. Sergey Kharlampiev
Department of International Relations
Rosenergoatom, Moscow, Russia
T. +7 499 9492474, f. +7 499 9492553
kharlampiev@rosenergoatom.ru

9. EXPENDITURES

The organizational cost of the meeting is borne by the host. Travel and all subsistence expenses are to be covered by the participants.

PARTICIPATION FORM

IAEA Workshop on E/C including FAC and EAC Issues in Nuclear Power
Plants

**World Trade Centre, Moscow Russian Federation
21~ 23 April 2009**

***Please, complete and send before 31 December 2008 to the competent official
authority (Ministry of Foreign Affairs or National Atomic Energy Authority,
Organization) for transmission to:***

Mr. K-S. Kang
International Atomic Energy Agency
Wagramer Strasse 5, P.O. Box 100
Vienna International Centre, 1400 Vienna, Austria
Fax: +43 1 2600 29598
E-mail: FAC@iaea.org

Participants should register as soon as possible upon the receipt of this Information Sheet.

Surname:	
Given Names:	Dr./Mr./Ms:
Title (position):	
Institution/Organization/Company:	
Full address:	
Tel:	Fax:
Telex:	E-mail:
I intend to present a paper <u>No</u> ____ Yes, with the following title: And enclose 500 word extended summary.	
Date:	Signature:

PERSONAL DATA FOR VISA SUPPORT

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Please complete and return directly to Mr. Sergey Kharlampiev, the
Administration Manager (kharlampiev@rosenergoatom.ru), before 1
March 2008.

Name: _____

Surname: _____

Sex: _____

Date of birth: _____ (day-month-year)

Place of birth: _____

Citizenship: _____

Passport number _____

Issued: _____ (day-month-year)

Valid until _____ (day-month-year)

City where you'll apply for Russian visa: _____

Name of your organization: _____

Position in the organization _____

Official address _____

Telephone: _____

Fax: _____

E-mail: _____

PLEASE ATTACH A COPY OF YOUR PASSPORT !

ACCOMODATION FORM

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Please complete and return directly to Mr. Sergey Kharlampiev, the Administration Manager (kharlampiev@rosenergoatom.ru), before 1 March 2008.

Name: _____

Surname: _____

Sex: _____

Citizenship: _____

Telephone: _____

Fax: _____

E-mail: _____

Date of arrival to hotel _____

Date of departure from hotel _____

Accompanying person Yes _____ No _____

Hotel Preferences:

Hotel	address / location	your mark
Mezhdunarodnaya (Crowne Plaza Moscow) *****	123610, Moscow, Krasnopresnenskaya nab., 12 (the nearest metro station "Delovoy Tsentr") single accomodation: 14000 Rubles/night (~540 USD/night) Located at the same complex as the workshop venue	
Melodia ****	Moscow, Skatertny per., 13 (the nearest metro station "Arbatskaya" Single room: 7360 Rubles/night (~290 USD/night) Located close both to the workshop venue and to downtown	
a hotel *** (TBD)	Single room: 3000 – 4500 Rubles/night (130 - 175 USD/night) Located within 30-min travel both to the workshop venue and to downtown	

Single room _____ Double room _____ (please tick as required)