

**EUROPEAN FEDERATION OF CORROSION
EUROPÄISCHE FÖDERATION KORROSION
FÉDÉRATION EUROPÉENNE DE LA CORROSION**



From

Damien Féron
CEA/Saclay
DEN/SAC/DPC/SCCME
Bâtiment 458
91191 GIF SUR YVETTE Cedex (France)

Thursday, October 28th, 2004

O/Ref. EFC/CEA/041028/DF/MBe

Dear Colleagues,

Re Minutes of the Nice meeting (15/09/2004)

Please, find hereafter the minutes of the WP4 meeting held in Nice on September 15th, 2004.

Sincerely,

Damien Féron
Chairman of the EFC WP4

Mylène Belgome
Secretary of the EFC WP4

Enc. Minutes
Annexes

OFFICES OF THE GENERAL SECRETARIAT:

The Institute of Materials	1 carlton house terrace, LONDON SW1Y 5DB	Tel: +44 20 7451 7336	Fax: +44 20 7839 2289
DECHEMA e.V.	Theodor-Heuss-Allee 25, D-60486 FRANKFURT (M)	Tel: +49 69 75 64 0	Fax: +49 69 75 64 201
Société de Chimie Industrielle	28 rue Saint-Dominique, F-75007 PARIS	Tel: +33 1 4555 6946	Fax: +33 1 4555 4033



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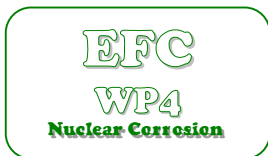
**MINUTES OF THE WP4 MEETING HELD IN NICE
SEPTEMBER 15TH, 2004**

Attendance:

Iñaki Azkarate	INASMET, Spain
Christiane Bibollet	EDF, France
Rik-Wouter Bosch	SCK-CEN, Belgium
Odile De Bouvier	EDF, France
Thomas Dorsch	FRAMATOME-ANP, Germany
Frank Druyts	SCK-CEN, Belgium
Ulla Ehrnsten	VTT Industrial Systems, Finland
Miroslava Ernestova	Nuclear Research Institute, Czech Republic
Damien Féron	CEA/Saclay, France
Catherine Guerre	CEA/Saclay, France
Hannu Hänninen	Helsinki University of Technology, Finland
Jussi Heinonen	Radiation and Nuclear Safety Authority, Finland
Harald Hoffmann	VgB Power Tech, Germany
Dolores Gomez Briceño	CIEMAT, Spain
Valérie L'Hostis	CEA/Saclay, France
Christian Lemaître	Université de Technologie de Compiègne, France
Digby Macdonald	Penn State University, USA
Anders Molander	Studsvik Nuclear AB, Sweden
Gabor Nagy	KFKI Atomic Energy Research Institute, Hungary
Ellen-Mary Pavageau	EDF, France
Antoine Pourbaix	CEBELCOR, Belgium
Stefan Ritter	Paul Scherrer Institute, Switzerland
Bo Rosborg	KTH, Sweden
Armin Roth	FRAMATOME-ANP, Germany
Peter Scott	FRAMATOME-ANP, France
Filippo Sevini	European Commission/Inst. for Energy, The Netherlands
Nick Smart	Serco Assurance, United Kingdom
Guy Turluer	IRSN, France
François Vaillant	EDF, France

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bâtiment 458	F-91191 GIF SUR YVETTE Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bâtiment 458	F-91191 GIF SUR YVETTE Cedex
Scientific Secretary	Yves Rouillon	EDF	GDL	2 rue Ampère	F-93206 SAINT DENIS Cedex 1



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Apologies for absence received from:

Jon Macak	Institute of Chemical Technology, Czech Republic
Olivier Raquet	CEA/Saclay, France
Yves Rouillon	EDF, France
G�rard Santarini	CEA/Saclay, France
Bernhard Stellwag	FRAMATOME-ANP GmbH, Germany
Pierre Van Iseghem	SCK-CEN, Belgium
Peter Wood	United Kingdom Nirex Ltd, United Kingdom

Diffusion:

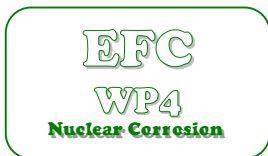
Present and apologized participants
WP4 Members
P. MacIntyre (EFC Scientific Secretary)
J. Vogelsang (STAC Chairman)
Ph. Berge (EFC Secretariat in France)

Summary

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1. OPENING AND WELCOME (Annex I)

Damien Féron opened the meeting and presented the agenda which is approved by the participants.

2. APPROVAL OF THE MINUTES OF THE PARIS MEETING

D. Féron asked for comments on the minutes of the meeting held in Paris on april 16th, 2004. No comment was made on the 2nd version of the minutes which are approved.

3. INTERNAL MATTERS (Annex I)

3.1. Recall of the Paris meeting's decisions

- ✓ Two meetings per year: at spring and during EUROCORR
- ✓ Up-dating of the WP4 members' lists
- ✓ Meetings and events calls and minutes send by mail

3.2. EFC Website





- ✓ Address: www.efcweb.org
- ✓ Up-dating will be made by the end of September 2004
- ✓ There will be a page for the WP4 on which participants approved to put:
 - * Minutes of the meetings, including overheads presented after receiving the authors' agreement;
 - * Announcements and calls for futur events (meetings, workshops, seminars, etc.);
 - * Regarding the members' lists, this point is on discussion; the decision will be made during the next WP4 meeting.

D. Féron advised the attendance to go and see the EFC website as interesting information about EFC are displayed and it is possible to register to receive the EFC newsletter.

3.3. Secretary

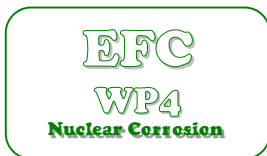
D. Féron introduced Mylène Belgome as the new Secretary, as Marie-Lise Léonard left the Corrosion Departement.

For information, Mylène Belgome address:

-  CEA/Saclay
DEN/SAC/DCP/SCCME - Bâtiment 458
91191 GIF SUR YVETTE Cedex (France)
-  +33 1 69 08 16 57
-  +33 1 69 08 15 86
-  mylene.belgome@cea.fr

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4. "REVISED STABILITY DIAGRAMS" - PROJECT BY ANTOINE POURBAIX (Annex II)

4.1. Discussions

A. Pourbaix exposed the necessity to revise and up-date the stability diagrams by using new data.

Actions to be carried out:

- ✓ Choose the metals to study;
- ✓ Determinate the conditions (temperature, media, etc.);
- ✓ Find, evaluate and validate data and calculs;
- ✓ Decide about the presentation to produce a hard copy of the revised diagrams and/or to create an Internet site where diagrams could be get by entering some data (metal, temperature, etc.).

Problems encountered:

- ✓ Who will carry out these actions?
- ✓ Who will fund these tasks?
- ✓ Which work program (schedule)?

Another major problem is underlined: the confidentiality of the data needed to up-date the diagrams (mainly data at high temperatures), as most of them were get during co-financed programs.

4.2. Decisions and information

After a large discussion between the participants, it is decided that for the next meeting:

- ✓ A. Pourbaix, as the coordinator of this project, will write a working draft;
- ✓ Negotiations between the participants and their national authorities or entities (companies, etc.) to get their agreement for using their data to up-date the stability diagrams have to be initiated.

After a question of R.W. Bosch, D. Féron said that the WP4 is the starting and center point for this project, but it can be opened to others Working Parties: any help is welcome!

5. EFC EVENT N°279 "SEMINAR ON HIGH TEMPERATURE ELECTROCHEMISTRY IN LWRs" - BY R.W. BOSCH (Annex III)

5.1. Presentation

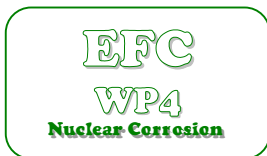
R.W. Bosch announced the EFC event n°279 that will take place on November 30th, 2004 on the Campus Library Arenberg (K.U. Leuven, Belgium).

The fees will be 100 € per person.

The official announcement will be published soon, as the agenda is definitely fixed.

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5.2. Decisions and information

D. Féron proposed to put the announcement on the WP4 page of the EFC Website, which is approved.

D. Féron underlined that such a seminar, at the end of a European program, is very important and often appreciated by the EU representatives.

**6. PROPOSAL OF A WORKSHOP ON CONCRETE DEGRADATION IN NUCLEAR SYSTEMS - BY
V. L'HOSTIS (Annex IV)**

6.1. Presentation

V. L'Hostis proposed to organize a workshop on concrete degradation in March or April 2006, in Cadarache (France).

This workshop would last 3 days and be organized around several sessions.

It is proposed:

- ✓ A scientific committee (5 to 8 persons) to review the scientific and technical content, abstracts and papers proposed;
- ✓ A local committee for the organization, composed by CEA and EDF... and others?
- ✓ Scientific support provided by WP4 and NEA (under discussion);
- ✓ The fees are planned to be taken in charge by CEA and EDF, participants would only have in charge hotel and restaurant fees;
- ✓ Technical visits may be organized (Cadarache and/or Marcoule CEA Centres);
- ✓ Proceedings would be published as an EFC Green book.

6.2. Decisions and information

The assembly gave the agreement for the WP4 support.

D. Féron precised that NEA support is under discussion for a common organization.

He also underlined the great interest of this proposal.

**7. EUROPEAN COOPERATIVE GROUP ON CORROSION MONITORING OF NUCLEAR SYSTEMS - BY
S. RITTER (Annex V)**

7.1. Presentation

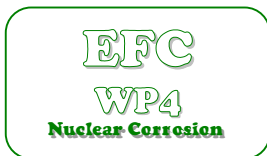
S. Ritter presented the European Cooperative Group named ECG-COMON, created in March 2004 in a brainstorming meeting held in Erlangen and announced the kick-off meeting that will take place on September 17th, 2004, in Nice.

This group is structured with:

- ✓ Executive Committee;
- ✓ Members;
- ✓ Working groups.

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The objective is to coordinate research on corrosion monitoring of nuclear materials in LWRs and nuclear waste disposals (as well as in other industrial environments).

It is proposed:

- ✓ An annual meeting lasting 2 or 3 days;
- ✓ Conferences to exchange information and knowledge;
- ✓ To plan and organize cooperative research or round robin programs;
- ✓ To develop test procedures;
- ✓ To provide advises;
- ✓ Etc.

7.2. Decisions and information

D. Féron informed the WP4 assembly about the fact that the ECG-COMON current members have signed a consortium agreement where confidentiality of the presented results and discussions is required. This is not compatible with the EFC status. So a mirror group belonging to the WP4 is proposed and accepted.

After a question of D. Macdonald, S. Ritter said that contacts have been taken with EPRI and that ECG-COMON is a group opened to the whole world and not only Europ.

D. Féron asked for a presentation on the ECG-COMON kick-off meeting at the next WP4 meeting.

8. EUROPEAN EXPERT GROUP ON CORROSION OF INTERNALS IN LWRs - BY F. SEVINI (Annex VI)

8.1. Presentation

F. Sevini presented the origin of the creation of this Expert Group called AMALIA and its main objectives:

- ✓ Creation of a permanent European strategy platform to exchange information and results on the integrity limits of structural core components;
- ✓ Complete portfolio of European nuclear networks (harmonised by SAFELIFE).

He proposed AMALIA to be part of the WP4.

F. Sevini also presented a list of typical tasks that AMALIA Group could carry out and the working method proposed.

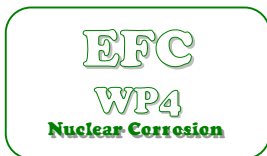
He asked for the attendance membership to AMALIA.

8.2. Decisions and information

D. Féron explained that, as AMALIA's members have signed a consortium agreement, this Group cannot be part of the WP4 and proposed a mirror Group (that could be named EEG on NPP Core Internals) so that this WP4 Group could report on the public actions/information of the AMALIA Group during the WP4 meeting, once a year.

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After a remark on the multiplication of European Groups and meetings related, F. Sevini explained that a specific European Forum on NPP Core Internals has been suggested by the some utilities over the last two years, and that the objective of AMALIA is to complement existing European programs and Groups, starting from PERFECT I.P. and report to the WP4. Meetings will be held as much as possible in combination with other programs.

This particular point was underlined by D. Féron: the WP4 meeting occurring during EUROCORR has the objective to present in the same place and at the same time the results of the work done by different Groups.

9. STATUS OF THE PROJECT OF A CO-ORDINATED ACTION "NUCLEAR CORROSION" - BY D. FÉRON (Annex I)

The project was presented and submitted as an Expression of Interest (EoI) on June 8th, 2004, but the September EURATOM call for proposals has been cancelled.

Next call is planned by the beginning of 2005 and will be the last call of the 6th FWP, so D. Féron asked for ideas/comments for the proposal to be made by November, 2004.

D. Féron also informed the attendance that a discussion with a EU Officer is planned during the seminar organized by R.W. Bosch on November 30th, 2004.

D. Féron proposed to put the co-ordinated action on the WP4 page of the EFC Website.

10. EFC WP4 PLANNED PUBLICATIONS - BY D. FÉRON (Annex I)

10.1. EFC Green books

Several Green books are already planned:

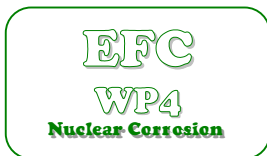
- ✓ Corrosion in LWRs
 - * Content: 17 papers from presentations made during EUROCORR'2003 and 2004;
 - * Discussion with WP5 and WP19 to include some of the papers presented during their sessions related to the subject;
 - * Agenda: call to the authors by the end of September, 2004; review and edition by mid 2005.
- ✓ Corrosion of archeological objects
 - * Edition by mid 2005, in collaboration with Ph. Dillmann and others editors.
- ✓ Electrochemistry at high temperature
 - * Content: proceedings of the seminar organized by R.W. Bosch on November 30th, 2004.
 - * Edition by the end 2005.

10.2. Proceedings

The proceedings of the Workshop "Prediction of Long Term Corrosion Behaviour in NWS" should be edited by the beginning 2005.

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Discussions are made with ANDRA to edit these proceedings without charges, and with EFC and EUROCORR organisers about the copyrights.

10.3. Review of the publications

D. Féron asked for the help of the attendance for the review of the papers that will be published in the different books. WP4 members will be solicited for reviewing.

11. EUROCORR INFORMATION – BY D. FÉRON (Annex I)

11.1. EUROCORR'2004

- ✓ 2 plenary sessions
- ✓ 4 keynote lectures
- ✓ 28 papers
- ✓ 2 sessions
- ✓ 2,5 days (1/2 day in EUROCORR'2001, 1 day in EUROCORR'2003)
- ✓ High quality of the presentations and very satisfying attendance.

11.2. EUROCORR'2005

EUROCORR'2005 will take place in Lisbon (Portugal) in September, 2005 and as it will celebrate the Golden Jubilee Year of the EFC, each Chairman of each WP is asked to make a review of the main events, scientific and technical challenges. D. Féron asked for the help of the attendance to accomplish the task.

Two sessions are planned for the WP4:

- ✓ The general session;
- ✓ A Workshop on "Corrosion Issues in Future Nuclear Systems" (Annex VIII).

11.3. EUROCORR'2006

EUROCORR'2006 will take place in Maastricht (The Netherlands) in September, 2006.

The subject is : "Reliability management of technical systems".

Two sessions are planned for the WP4:

- ✓ Nuclear Corrosion session;
- ✓ A workshop: the subject will be decided during next WP4 spring meeting. A proposal is made on "Corrosion Issues related to LWR Ageing and Life Extension", but other proposals are welcome.

12. EFC NEWS AND MISSING ITEMS – BY D. FÉRON (Annex I)

- ✓ 4 new Societies members of the EFC: from Portugal, Switzerland, The Netherlands and Czech Republic;
- ✓ Up-dating of the EFC Website;
- ✓ A new Working Party: WP19 "Corrosion/degradation of polymer materials";

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- ✓ Future EUROCORR organization: one *General Secretariat*;
- ✓ Attendance to WP meetings: free of charge when these meetings are alone; but it will be obliged to register for EUROCORR's attendance (at least for one day) when these meetings take place in conjunction with EUROCORR.

13. NEXT MEETINGS - BY D. FÉRON (Annex I)

- ✓ November 30th, 2004: Seminar organized by R.W. Bosch + discussion and focus on the role of the WP in programs funded by the EU
- ✓ Spring meeting: D. Féron proposed that the meeting takes place in Paris but asked for other proposals. S. Ritter proposed to organize the Meeting in conjunction with ECG-COMON meeting planned at spring (06-07/06/2004) in Ljubljana (Slovenia). This proposal will be discussed.
- ✓ EUROCORR' 2005: Lisbon (Portugal) in September, 2005.

14. CLOSURE

D. Féron thanked the participants for their useful contributions and discussions.

D. Féron closed the meeting.

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