



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

**MINUTES OF THE WP4 FALL MEETING
HELD IN THE ACROPOLIS, NICE, FRANCE
WEDNESDAY, SEPTEMBER 09TH, 2009**



Written by:

Laure Martinelli, Fabien Rouillard and Damien Féron

Diffusion:

Present and apologized participants

WP4 Members

Paul MacIntyre (EFC Scientific Secretary)

Marcel Roche (EFC General Secretary in France)

Gerhard Kreysa (EFC General Secretary in Germany)

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex



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

Attendance:

Ales Cesen	ZAG (Slovenia)
Bob Cottis	University of Manchester (UK)
Thierry Couvant	EDF (France)
Cécilie Duhamel	ENSM-P (France)
Damien Féron	CEA/Saclay (France)
Maria Del Sol Garcia Redondo	CIEMAT (Spain)
Linda Goldberg	NACE (USA)
En-Hou Han	IMR (China)
Jaka Kovac	ZAG (Slovenia)
Bruno Kursten	SCK-CEN (Belgium)
Andraz Legat	ZAG (Slovenia)
Christina Lilja	Svensk Kärnbränslehantering AB (Sweden)
Stuart Lyon	University of Manchester (UK)
Digby Macdonald	PennState University (USA)
Virginia Madina	INASMET (Spain)
Laure Martinelli	CEA/Saclay (France)
Anders Molander	Studsvik Nuclear AB (Sweden)
Cristiano Padovani	Nuclear Decommissioning Authority (UK)
Juha Piippo	Cormet Oy (Finland)
Stefan Ritter	Paul Scherrer Institute (Switzerland)
Fabien Rouillard	CEA/Saclay (France)
Petr Sajdl	Institute of Chemical Technology (Czech Republic)
Janos Schunk	Paks Nuclear Power Plant Ltd (Hungary)
Roger W. Staehle	Staehle Consulting (USA)
Jianqiu Wang	IMR (China)
Krzysztof Wolski	ENSM-SE (France)
Jei-Won Yeon	Kaeri (Korea)

Apologies for absence received from:

Mylène Belgome	CEA/Saclay (France)
Dolores Gomez Briceño	CIEMAT (Spain)
Jens Ganswind	VGB PowerTech e.V (Germany)
Catherine Guerre	CEA/Saclay (France)
Marc Le Calvar	IRSN (France)
Valérie L'Hostis	CEA (France)
David Tice	Serco (UK)
Peter Wood	Nuclear Decommissioning Authority (UK)

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex



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

Summary:

1. Opening and approval of the agenda	4
2. Approval of the minutes of the Paris spring Meeting	4
3. EFC WP4 Publication	4
4. EFC WP4 future events	5
5. Summer School "Nuclear corrosion"	5
6. BRINCS	5
7. Website	6
8. EUROCORR'2010	6
9. Missing items and conclusion	6
10. Closure	6

Enclosures (only for WP4 Members and EFC addressees):

- ✓ Slides presented by D. Féron
- ✓ Slides presented by D. Féron: Announcement of "Jubilee day: Stress Corrosion Cracking of nickel base alloys at CEA - Coriou effect" (EFC Event #333)
- ✓ Slides presented by Th. Couvant: Announcement of "International workshop on Coupling Mechanisms to improve lifetime prediction of LWRs" (EFC Event #331)
- ✓ Slides presented by B. Kursten: "4th International Workshop on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems" (EFC Event #329)
- ✓ Slides presented by D. Féron: Proposition for a workshop on "Ageing Management of Nuclear Structures and Installations"

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex



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

1. OPENING AND APPROVAL OF THE AGENDA

D. Féron opened the meeting. He thanked the audience for coming.

D. Féron presented the apologies received for the absentees.

Then, D. Féron presented the agenda and engaged the participants not to hesitate to express themselves if they see a missing item.

As no comment was made; the agenda was approved.

2. APPROVAL OF THE MINUTES OF THE PARIS SPRING MEETING

D. Féron made a review of the minutes of the previous WP4 Spring Meeting held in Paris on March 2009.

As no comment was made, the minutes of the Paris Meeting were approved.

3. EFC WP4 PUBLICATION

3.1. EFC Green Book n°56

St. Ritter affirmed that the EFC Green Book n°56 "Corrosion monitoring in nuclear systems: research and applications" will finally be published around July 2010. D. Féron stated that P. MacIntyre currently performs the English language corrections and that Maney agrees to perform English review of the future EFC books.

3.2. EFC Green Book n°59

Considering the EFC Green Book n°59 on "Sulphur Assisted Corrosion in nuclear disposal systems", B. Kursten (Editor) reported that most of the reviewers have not provided with their comments on time, which would certainly lead to a delay of the publication. But reviewers have made excellent and detailed reviews of the papers, which will be valuable for the technical and scientific quality of the book.

3.3. Other publications

Considering other publications, a Green Book on "Corrosion Issues in Nuclear Industry Today" (Springer Editor), has been proposed (leader: Th. Couvant, assisting: St. Ritter and B. Kursten). For this document Th. Couvant proposed a new title "Degradation, Modelling and Mitigation of SCC in LWRs", because people involved considered that too many papers have already been written on the original subject, which is too wide. They proposed, then, more focussed issues that deal with degradation, modelling and mitigation separately. As a first step, the targeted issues will be specified together with the expert group of writers (P. Combrade, etc.) and the writing will start at the beginning of 2010. The outlook for this Green Book will be discussed at the end of 2009.

Th. Couvant gave an assurance that if some problems appeared for the publication, MAI could publish the book.

Other publications have occurred in scientific journals, such as the proceedings of EFC Event #301 in Journal of Nuclear Materials (Special issue, Volume 379 n°1-3, 2008) or in collaboration with other Scientific societies such as the proceedings of the EFC Event #317 published in a RILEM Book (ISBN 978-2-31158-072-1).

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex



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

4. EFC WP4 FUTURE EVENTS

D. Féron presented the future events for 2010.

4.1. Jubilee day: Stress Corrosion Cracking of nickel base alloys at CEA - Coriou effect (Enclosure 2)

The next meeting is organised by the Service of Corrosion (CEA) in January 26, 2010 at the CEA/Saclay entitled "Jubilee day: Stress Corrosion Cracking of Nickel Base Alloys at CEA/50 ans de Corrosion Sous Contrainte au CEA - Effet Coriou/Coriou Effect". However, D. Féron needs an internal agreement from CEA to validate the Jubilee event at Saclay. He showed the agenda for the meeting.

4.2. International workshop on Coupling mechanisms to improve lifetime prediction of LWRs (Enclosure 3)

Th. Couvant continued the discussion on the next workshop which will be held at EDF on "Coupling Mechanism to Improve Lifetime Prediction of LWRs". For this meeting, the oral presentation duration will be 30 min plus 30 min for questions. The reason for the 30 min question time is to encourage audience participation in the discussion. The aim of the workshop is to improve our knowledge of and our ability to mitigate stress corrosion cracking.

4.3. 4th International Workshop on Long-Term Prediction of Corrosion Damage in Nuclear Waste Systems (Enclosure 4)

B. Kursten spoke about the EFC Event n°329. For this meeting the oral presentation duration will be 30 min plus 10 min for questions.

4.4. Others (Enclosure 5)

D. Féron added some information about the next 2010 workshop on concrete structure: "Ageing Management of Nuclear Structures and Installations", which will be held in Toronto.

5. SUMMER SCHOOL "NUCLEAR CORROSION"

D. Féron recalled that the organisation of a Summer School on "Nuclear Corrosion", initially planned by SCK-CEN, was cancelled during the Paris Meeting.

A. Legat said that he could organise the first edition but he needs an internal agreement.

Indeed in Manchester University, a new module is carried out this year on nuclear issues for Master and PhD students (during 4 years). Different sessions are performed each year. In this module, there will be a part on corrosion issues in nuclear systems. It was assumed that some young foreign people could attend the module class. This must only be checked at University.

6. BRINCS

NACE presented the creation of a new expert group, the BRINCS group, which will screen materials for certification. There is an open symposium in January on corrosion and EFC WP4 members are welcome to this event. NACE would like to be more active on corrosion issues in the future.

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex



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

7. WEBSITE

D. Féron thanked St. Ritter for taking care of the WP4 website. It is planned, if possible, to add a private section to the WP4 website in order to exchange unpublished files and more confidential information.

St. Ritter agreed to ask for modifying the website in order to add a private domain for WP4.

8. EUROCORR'2010

J. Schunk proposed a special seminar on VVER as there are several VVER in Eastern Europe, India and China. This seminar would include material issues in VVER. It will be proposed for the next EUROCORR in Moscow.

9. MISSING ITEMS AND CONCLUSION

After discussions, D. Féron confirmed, with Th. Couvant's agreement, that the next Spring Meeting will be held at EDF in April 2010 during the workshop on "Coupling Mechanism to Improve Lifetime Prediction of LWRs".

St. Ritter suggested that the ECG-COMON could organize a 2nd workshop on corrosion monitoring during EUROCORR'2011 (maybe together with other WPs).

10. CLOSURE

D. Féron identified the future meetings:

- ✓ "Jubilee day: Stress Corrosion Cracking of Nickel Base Alloys at CEA - Coriou Effect"
26th January, 2010 at the CEA/Saclay (France)
- ✓ International workshop on "Coupling Mechanisms to Improve Lifetime Prediction of LWRs"
EFC event #331
08th-09th April, 2010, EDF (Material Ageing Institute), Les Renardières (France)
- ✓ ECG-COMON meeting
25th-26th May, 2010, Erlangen (Germany)
- ✓ 4th International Workshop on "Prediction of Long Term Corrosion Behaviour in Nuclear Waste Systems"
EFC event #329
28th June-02nd July, 2010, Bruges (Belgium)
- ✓ EUROCORR'2010
13th-17th September, 2010, Moscow (Russia)
- ✓ International workshop "Ageing Management of Nuclear Structures and Installations"
08th-13th November, 2010, Toronto (Canada)

As no other point was raised, D. Féron thanked the audience for coming and closed the meeting.

EFC WP4 "NUCLEAR CORROSION"

Chairman	Damien Féron	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex
Vice-Chairman	Thierry Couvant	EDF	DMMC - Les Renardières	BP46	F-77818 MORET SUR LOING Cedex
Secretary	Mylène Belgome	CEA/Saclay	DEN/SAC/DPC/SCCME	Bât. 458 - PC 50	F-91191 GIF SUR YVETTE Cedex