EUROPEAN FEDERATION OF CORROSION

Working Party « CATHODIC PROTECTION » (EFC WP 16)

Minutes of the 13th Meeting

September 11th, Freiburg Im Breisgau, Germany

Welcome, Apologies

The meeting was opened by Marcel Roche (Total), who shortly presented the Working Party. He transmitted the received apologies for the people who could not attend the meeting, circulated the attendance list (see **appendix 1**), presented the agenda (as depicted in the invitation, see **appendix 2**) and started the meeting. 9 people attended the meeting.

Lise Lanarde (Gaz de France) accepted to be the secretary for this meeting. Marcel Roche thanked Xavier Campaignole (Gaz de France) for having accepted to be the secretary so far. He is now on a new position not directly dealing with cathodic protection.

Attendees: Marcel Roche (Total), Lise Lanarde and Sylvain Fontaine (Gaz de France), Anne-Marie Grolleau (DCNS), Luciano Lazzari (Politecnico di Milano), Thomas Theissen (Wikon GmbH), Salim Debbache (Technip France), Linda Goldberg (Nace International), Leif Berthagen (AIA Accede AB).

Apologies: Adrian Gomila (WW Guldager Electrolisis), Markus Büchler (SGK), Ken Lax (Corroconsult), John Thirkettle (Consultant), Michèle Lefebvre (DGA). (Gaz de France).

Approval of the minutes of the 12th meeting held in Maastricht, the Netherlands, on September 26th 2006

The minutes were approved without modification.

EFC WP16 business: Presentation of the main objectives for the next three years and the associated action plan

Objectives and envisaged actions have been presented at the STAC (Scientific and Technical Advisory Committee) meeting held on Sept. 9 in Freiburg as described in the pro-format report given in **appendix 3** (except revision in red). M.Roche made the following comments.

The 2 major objectives are:

1. Exchange of information and clarifications for CP measurements and coating surveys techniques for buried pipelines. Purposes are to contribute to harmonization efforts for standards and to write complementary recommendations.
2. Follow-up of progress in Certification of CP personnel and companies in Europe, especially consecutive to the publication of EN 15257 (CP – Competence levels and

certification of CP personnel) prepared by CEN TC219 WG5 following a compilation of existing schemes carried out by EFC WP16.

The group presently meets once a year during the Eurocorr conferences. Intermediate meetings could be organized so that preparation of recommendations on CP measurements for buried pipelines could progress better should enough active volunteers exist.

Since Eurocorr'2000, a session on general issues of CP and applications on buried structures is organised. In addition, there are sometimes joint sessions with WP 9 (marine), WP 11 (concrete) or WP13 (Oil & Gas). For example, at Eurocorr 2007, there is a Joint session (WP 9, 13, 16) on "CP in offshore and marine environments" and a Joint session (WP 11 and 16) on "CP of steel in concrete".

- Maintenance of the **WP16 page on the www.EFCWEB.org website**: We should ameliorate the contents of the site in 2008 with the assistance of Dechema:
    - Minutes of WP 16 meetings,
    - Forum discussion,
    - Follow-up of progress in certification,
    - Tribune for EFC WP 16 activities.
- **Contributions to the EFC Newsletter**:
    - For 2008: Description of the new European standard for Certification of CP personnel and its application in various countries.
    - For 2009: Project for an EFC Publication on CP measurements and coating surveys techniques for buried pipes.
- Preparation of **publications for the EFC Series of Books** ("Green books"):
    - The project of an "EFC Publication" on "Cathodic protection assessment of buried structures" is confirmed with a tentative date of publication for 1010.
    - In addition, the idea is launched to prepare an "EFC Publication" constituted of the best papers presented at the previous Eurocorr's. The major problem is that papers at Eurocorr's are not lectured and approved by EFC before their presentation at the congress, as it is case for the NACE congress or others. A selection will be therefore necessary.

- There is a project to organize a **Workshop at Eurocorr'2008 if possible in collaboration with other societies such as NACE and CEOCOR (Sector A) on "How to verify CP effectiveness on buried pipelines?"**. This would represent a good opportunity to have technical discussions on various points of views of topics which have still to be clarified.

- "**Hot News**": There are difficulties to get people active for working on the project of Publication on "Cathodic protection assessment of buried structures". One of the reason is that in Europe most of the CP specialists working for buried pipelines in gas and water transmission companies are members of CEOCOR and do not attend too much EFC meetings. There should be better co-operation with CEOCOR (Sector A), but it has not been possible up to now to launch any actual collaborative work. A joint working group on this topic with CEOCOR Sector A is mandatory if we want to achieve the publication of such a document. Efforts in this direction will be continued.

- As requested by STAC for all the WP's, a deputy chairman for the EFC WP16 will have to be designated to assist and replace when necessary Marcel Roche.

Exchange of information on the implementation of EN 15257 elaborated by the CEN/TC219/WG5 on "Qualification and Certification of Cathodic Protection Personnel" (see appendix 4)

Update on the topic was presented by Marcel Roche. The activity started with the launching of WP16 in 1998. The first report was issued in May 2001: "*qualification and certification in the field of cathodic protection: present situation and possible European scheme*". Already at the end of 2000, it led to a consensus to launch CEN TC219 WG5. From November 2001 the group worked on the "competence level and certification of cathodic protection personnel", EN 15257, which has been voted at the end 2006 and is now published in English, French and German.

It is a framework allowing independent national certification bodies to operate. Formal equivalence through MLA (multi lateral agreement) will be possible after audit by any European national accreditation body. There is a possibility of a delegated body previously authorized and verified by the certification body. There are 3 possible levels of competence and an accurate definition of the tasks relevant to each of them. It deals with 4 possible application sectors: land, marine, concrete and internal of equipments. Examinations are formal for level 1 and 2. Level 3 certification relies either upon a competence assessment through a detailed dossier which may be supported by a specific study to be defended in front of an assessment committee, or upon a full examination process. There are common preliminary acceptance criteria based on education and experience for full certification. Provisional certification may be delivered if the candidate's experience is not sufficient. Training is mandatory but the accepted ways are to be defined by the certification bodies. Certification has a 5-year validity period.

EFC WP16 continues to organize a collection of the different countries experiences. There should be a delegate per country in charge of compiling the information. A table indicating the number of certificates per country was presented with the present information obtained by M.Roche (cf. Appendix 4). A list of corresponding members was established during last meeting at Maastricht, for giving periodically the status of certificated personnel in their respective countries: B.Wyatt for UK, L.Lazzari for Italy, M.Roche for France, H.Van Bruchem for the Netherlands, M.Büchler for Switzerland. During the meeting T.Theissen accepted to be the corresponding member for Germany.

All these corresponding members are kindly requested to send actualised information for their countries to M.Roche. In addition, should it be possible to get actualised information also from NACE it would be highly appreciated.

In France, Training and Examination Centres will be operative beginning 2008 in Brest (Institut de la Corrosion and IFREMER) for Marine Application Sector. The marine test facilities will include tests on samples in natural seawater tanks, on a "node" in a bigger tank and on an ICCP system on a quay. There is a project to propose these centres at the European level (in English) in the near future.

Preparation of the work on EFC Publication on the "State of the Art" report for assessment of CP of buried pipelines (see appendix 5)

The objective of EFC WP16 is to contribute to clarification of the criteria and measurement techniques to be used for a safe assessment of protection of buried pipelines as a complement to standards and professional documents (from ISO, CEN, NACE, Australia, others).

There is presently not a complete agreement between ISO, EN and NACE standards, for example, on the 100 mV shift criterion, not presently accepted by EN 12954. EFC WP16 could help to harmonize the future standards.

In France, CEFRACOR is working on this topic since 2004 but the document is not yet completed. A first "Recommandation PCRA" draft exists (in French) with annexes describing methods and proposed flowcharts. The document of CEFRACOR translated in English could be one of the starting points of discussions.

A same work is said to be done in UK, who agreed to contribute afterwards for preparing the EFC document and to propose modifications to EN 13509 (Measurement techniques). Recent proposal to enlarge the scope to buried piping in complex facilities (protected or not by CP) has been sent by e-mail by John Thirkettle who is leading an Industrial Forum on this topic in UK. This proposal has been accepted. L. Lazzari from Italy suggests also taking into account the tanks.

A **Workshop on "Assessment of CP effectiveness on buried pipelines" will be organized at Eurocorr'2008** (Edinburgh, UK), in order to exchange in depth on these topics. It was mentioned that **NACE**, **CEOCOR Sector A** and **CEN TC 219 WG1** could contribute in the Workshop. Such Joint Workshops opened to NACE representatives have been recommended by EFC Board of Administrators and a first tentative had been made for Eurocorr'2007 by EFC WP16. A keynote lecture could be presented at the beginning of the Workshop (possibly by M.Roche) on the inventory of practices and criteria according to countries and standards.

Candidates to work on this project are: L. Lazzari, S. Fontaine, L. Lanarde and S. Debbache. Other volunteers are welcomed to participate in the preparation of this workshop, especially for contacting Sector A of CEOCOR for convincing them to participate.

A first contact was taken with **NACE TG 360** ("Piping systems: Review of SP0169-2007 (formerly RP0169), Control of external corrosion on underground and submerged metallic piping systems, Jim Chmilar, chairman) which has been assigned to "review and revise as necessary" NACE Standard RP0169-2002 (Control of External Corrosion on Underground or Submerged Metallic Piping Systems), incl. Section 6 (Criteria). Work has started in 2007.

Other aspects than criteria, such as measurement methods, shielding effect due to disbonded coatings and effectiveness of methods to detect these disbondings, etc) will be addressed.

NACE STG 05 (Cathodic/Anodic Protection) and **STG 35** (Pipelines, Tanks and Well casings) and other TGs and TEGs will be also contacted (e.g. TG 321 "Corrosion probes: CP effectiveness and soil corrosiveness", TEG 292X "Direct Assessment Methodology Application", TEG 338X "CP monitoring: use of coupons", TG 211 "Report on the application of the 100 mV polarisation criterion", TG 279 "Pipelines: Close-Interval potential surveys on buried and submerged metallic pipelines".

Other technical topics and free discussions.

Research proposals on “Study of specific applications of cathodic protection” have been presented by L. Lazzari (cf. **appendix 6**).

- CP of stainless steel in passive state
- CP in seawater : sunlight irradiation effects
- Use of Al anodes in soil
- Use of AC to activate galvanic anodes
- Chemical corrosion of metals under CP

For information, the status of European Standardisation current works for CP in **CEN TC 219** was presented (**appendix 7**).

- EN 12954 is divided in 2 parts (general applications in soils and buried pipelines)
- CEN TS 15280 is expected to be converted in EN standard
- Large program for seawater applications.
- Progress in revision of EN (concrete), extended to buried and immersed structures.

Participation to future events

Next EFC WP16 meetings:

- Spring meeting to prepare the Joint Workshop on "Assessement of external protection of buried pipelines" together with NACE International and CEOCOR at Eurocorr’ 2008 (date and location to be defined)
- Meeting during Eurocorr’2008 at Edinburg.

Preparation of CP session(s) at Eurocorr‘2008 in Edinburgh, UK, from 8 to 11 September, 2008, has to be done. L. Lazzari suggests to organise a new session on CP application for marine applications (maybe in 2009) to talk about the comparison of standards and the optimization of the CP design of offshore pipelines to restrict conservatism. **Please submit papers on the dedicated Web site.**

L. LANARDE, Secretary M. ROCHE, Chairman

7 appendices