

EUROPEAN FEDERATION OF CORROSION Working Party "CATHODIC PROTECTION" (EFC WP 16)

Minutes of the 6th Meeting March 27th 2001, Barcelona, Spain

Welcome, Apologies

The meeting was opened by M. Roche, reminding the topics to be discussed. After the usual apologies for the people who could not attend the meeting and the attendance list for those who could (see appendix 1), the intended agenda (as depicted in the invitation, see appendix 2) started the session. 9 attendants participated to the meeting.

Approval of 5th meeting's minutes

The minutes were approved without modification.

Certification (personnel and companies)

Comparative EFC Document

A comparative document was presented by M. Roche at the CEOCOR Conference in Brussels on May 9th 2000, after discussion at the 4th meeting in Milano. It was once again discussed at the 5th meeting in London. The document reviews the current practices in European countries and also mentions the American NACE certification. The document, modified on the basis of the comments made during the 5th meeting, was sent in appendix of the minutes of this meeting for final approval in the present meeting. No comment was received before the 6th meeting and the following modifications were decided at the meeting:

- The present updated number of certified people in Italy will be given if different (no change made)
- Some modifications have been decided in the Netherlands at their recent meeting, including the validity period put from 3 to 5 years in order to be in accordance with all the other systems
- Mr Soldevila will give updated information on the new NACE International system (done).

The version given in appendix 3 is considered as the first edition of the document. It will be given to all people interested and used as a basis of the work to be launched in CEN TC219/WG5.

CEN/TC219/WG5 on " Qualification and Certification of Operators in the field of Cathodic Protection "

The launching of a new working group on "Qualification and Certification of CP personnel" in TC219 (WG5) is official since February 2001, Marcel Roche being the Convenor. The first meeting is expected before summer 2001. The country representatives will be appointed by their certification organisations which have been contacted by Brian Clary, Secretary for the CEN TC 219. An answer by the end of March 2001 has been suggested in order to start the work as soon as possible. At the date of the meeting, Germany had appointed 4 experts and Sweden 1. Since that time, additional appointments have been made by the Netherlands (3), Belgium (3), Spain (2) and UK (1).

The project concerns only Qualification and Certification of Operators (and not Companies or Services) and Resolution taken at the CEN meeting stipulates that the standard should be a "framework".

A discussion was organised one more time on the main possible options for an European scheme; for the time being there is a consensus on the following :

- 1- 3 levels of competence (as in NACE) but relevant tasks and knowledge need to be clarified (for instance who can design what). Level 2 is supposed to design simple CP system (but simple remains to be defined), and should be validated by a level 3 to comply with eventual local regulations.
- 2- Acceptance criteria for candidates should be based on experience and education.
- 3- Mandatory training/examination with agreement of training/examination centres.

One of the major point to be discussed is the necessity or not of Application Sectors : the 1st one will be land applications, but specialisation could be limited to level 3. Level 1 could be an all sectors certification, level 2 needs to be discussed. On the opposite, another opinion considers that specialised sectors are only necessary for level 1, a level 3 having to be expert in all the application sectors. Another way could be to have one basic sector with specialised modules when necessary.

The work will be started on the basis of the following documents:

- EFC Comparative document
- French and Italian Standards
- UK Icorr REQ DOC
- EN 473 (Certification of NDT operators)

It has been reminded that CEOCOR is presently preparing a training manual on the basics for buried pipelines.

State of the Art report on Assessment of CP of buried pipelines

The main activity of EFC WP16 will be now devoted to a "State of the Art report for the Assessment of CP of buried pipelines" to be published in 2003 as an EFC Publication (green book). There is an acute need on this work for a close collaboration with **CEOCOR Sector A in a Joint Working Group**. Both EFC and CEOCOR are involved in CP. The first is involved in all the aspects of CP and the second only in buried water or gas pipelines. However the relations between the two organisations should be more complementary. As decided before, M.Roche contacted CEOCOR (MM. Leroy, Chairman and Di Biase, Sector A) to present this proposal. A positive answer seems probable provided that CEOCOR give a formal approval which should clearly appear in the publication, but the final decision will be taken by CEOCOR during their next meeting at the end of April.

B.Wyatt had agreed on preparing a first draft frame for the 6th meeting but he was unfortunately unable to send it and to attend the meeting. A first extended outline was then prepared during the meeting and is given in appendix 4 for discussion, modification and enrichment by all the interested colleagues. It could be the basis for the work of the WG at its first meeting. If possible, the document should give recommendations for the use of the methods as a function of the aims of measurements but it is considered that even if it is only a "cook book" sharing experiences on the effects of coatings, soils, stray currents, ... the work would be anyway valuable because no complete updated document exists on this topic. Safety precautions to be taken during measurements should be included.

The main basic documents to be used to start the work have been listed:

- ISO 13623 (Pipeline transportation system)
- EN 12954 (CP of buried or immersed metallic structures- General principles) and prEN 13509 (CP measurement techniques)
- NACE TM0497 (Measurement techniques related to criteria for CP on underground or submerged metallic piping systems)
- Corrosion Engineering Association (Institution of Corrosion Science and Technology /NACE Joint Venture) State of the Art report on Specialised surveys for buried pipelines, Sept. 1988
- CEOCOR document published by AGHTM in French in 1990 and in Italian in 1994 (to be clarified)
- GESIP report n° 2000/01 on Methods for detecting defects and repairing pipelines (to be issued in French in 2001)
- Peabody's Control of Pipeline Corrosion 2nd Edition, 2001
- Cathodic Corrosion protection – Theory and Practice of electrochemical protection processes, W. von Baeckmann, W. Schwenck and W. Prinz, 3rd Edition, 1997
- Protezione Catodica, L. Lazzari, P. Pedferri, 2000

When the final answer will be given by CEOCOR and if it is positive, the WG should be constituted and a leader chosen, if possible a recognised expert member of EFC WP16 and CEOCOR Sector A at the same time. From now, a number of people present at the meeting agree to participate : MM. Adam, Bazzoni, Gomila, Pourbaix, Roche, Soldevila.

Other Technical Topics and Free Discussions

C.Adam presented the latest measurements carried out with micro-electrodes installed close to the steel surface through an asphalt enamel coating on a spool pipe as a complement of those performed in 1999 to try to explain the Stress Corrosion Cracking failures that occurred in 1997 on the Branch B of SPMR pipeline network and published at Eurocorr'2000. Very quick recordings (frequency of 1MHz) in ON/OFF conditions show a very quick potential evolution which could lead to the conclusion that the test piece is not protected, in spite of a mean current density of about 1.2 mA/m² on the whole surface or 120 mA/m² if bare steel at coating defects only is considered. A conventional interpretation of ON/OFF method would clearly conclude in such a way. These recordings show also a 50Hz current flowing with very important amplitudes. This current cannot be originated from the measurement device as it is equipped with dry cells.

Zooms on the vertical parts of potential variations show that their are not in fact exactly vertical, which could indicate that it corresponds to a very quick depolarisation due to the fact that ON potentials are very negative and that steel surface polarisation due to H evolution is broken practically instantaneously as potential reaches – 1.2 V. If this explanation is the right one this means that ON/OFF classical measurements can lead to dangerous conclusions when overprotection is to be avoided.

It was considered that differentiation between depolarisation and the time constant of the measurement circuit is difficult to achieve (insulation and lengths of cables should be varied). A.Pourbaix recommended to use CORREAC system in order to study ac currents and A.Gomila advised to use coupons or CORREAL system to conclude instead of these micro-electrodes. The discussion remains open and SPMR will try to accumulate data in order to better understand the situation.

Next Meetings

Next EFC WP16 meeting : in Laco di Garda, Italy during Eurocorr'2001 (at the same date as the CEOCOR meeting in Biarritz, France...). The precise date will be given later.

Other meetings :

There will not be any Eurocorr in 2002 as there is already the International Corrosion Conference in Grenada, Spain. Consequently, in June 2002 there will be an EFC Workshop on **Certification in Corrosion Prevention** in France (**Aix-en-Provence**) together with the "**3rd CEFACOR Seminar on CP and associated coatings**".

No information concerning the **Symposium on CP, Theory and Practice (EFC event nr 250) will should be organised in Poland (Gdansk) on CP on 9-10 May 2002**, joined with a meeting of EFC WP16. J.Jankowsky apologised for not being able to attend the 6th meeting nor Eurocorr'2001; he is kindly requested to inform M.Roche on the project concerning this Symposium.

Note : Since the meeting, and due to the date of ICC Grenada Conference in September, the dates for the 2 joined events organised by CEFACOR in Aix-en-Provence have been settled as follows :

- **Workshop on Certified Corrosion Prevention on June 4-5, 2002 (EFC event nr 253)**
- **CEFACOR Seminar on CP and Associated Coatings on June 6-7, 2002 (EFC event nr 254).**

In 2003, Eurocorr will take place in Hungary.

M.ROCHE, Chairman