HLWYM HEmails

From: Gustavo Cragnolino [gcragno@cnwra.swri.edu]
Sent: Thursday, July 22, 2004 7:59 PM
To: Dennis Galvin; 'DDUNN@cnwra.swri.edu'; 'DGUTE@cnwra.swri.edu'; 'gcragno@cnwra.swri.edu'; Ken Chiang; Lietai Yang; Osvaldo Pensado; 'VJAIN@cnwra.swri.edu'; Xihua He; Yi-Ming Pan; Aladar Csontos; Tae Ahn
Cc: Asadul Chowdhury; Sitakanta Mohanty; Andy Campbell; 'Abou-Bakr Ibrahim'; Bret Leslie; 'Dan Rom'; Gregory Hatchett; Marissa Bailey; Mysore Nataraja; Richard Codell; Timothy Kobetz
Subject: RE: TBD-6 and CLST Agreements Meeting
Attachments: AgreementCLST1.10..wpd; AgreementCLST1.10..wpd

Sorry. The attachments are here.

-----Original Message-----
From: Dennis Galvin [mailto:DJG3@nrc.gov]
Sent: Thursday, July 22, 2004 10:13 AM
To: DDUNN@cnwra.swri.edu; DGUTE@cnwra.swri.edu; gcragno@cnwra.swri.edu; KCHIANG@cnwra.swri.edu; LTYANG@cnwra.swri.edu; OPENSADO@cnwra.swri.edu; VJAIN@cnwra.swri.edu; xhe@cnwra.swri.edu; YPAN@cnwra.swri.edu; Aladar Csontos; Tae Ahn
Cc: ACHOWDHURY@cnwra.swri.edu; SMOHANTY@cnwra.swri.edu; Andy Campbell; Abou-Bakr Ibrahim; Bret Leslie; Dan Rom; Gregory Hatchett; Marissa Bailey; Mysore Nataraja; Richard Codell; Timothy Kobetz
Subject: TBD-6 and CLST Agreements Meeting

CLST and Associates

I have scheduled a meeting for Friday 7/23/04 from 10:00 to 11:00, though the room is reserved until 12:00.

The first purpose of the meeting is to discuss the selection of authors, technical leads, and the agreement outline due dates. To the extext possible, I would like to identify dates for the first draft of letters based on the results of the second half of the meeting.

The second part of the meeting is to discuss our first impression of the appendices to see which agreements may be readlily closed or are likely to lead to a request for references. The CNWRA is scheduled to provide an compilation of initial impressions of the appendices by close of business Thursday 7/22/04. Please try and read the appendices assigned to you last Tueday by tomorrow morning's meeting.

The Bridge line is 1-800-638-8081 or 301-231-5539, pass code 5447#. I have reserved 4 lines.

I have also attched the TBD-6 Agreements table. Note for Appendix L, I had provided the ADAMs # for the transmittal letter. I have now provided the ADAMs number for the appendix.

Note that in our January 24, 2003 letter to DOE (ML030270065), we accepted the DOE approach to provide the information for CLST 1.05 with CLST 1.04 and CLST 2.07 with CLST 2.04. Please consider this when reviewing CLST 1.04 and CLST 2.04.

Also, references for CLST 1.14 and 1.15 should be available to in the DOE local office (see attached).

Thanks,

Dennis

Hearing Identifier: HLW_YuccaMountain_Hold_EX
Email Number: 1680

Mail Envelope Properties
(!~!UENERkVCMDkAAQACAAAAAAAAAAAAAAAAABgAAAAAAAAAee6GNYnO0xGN1ABgCDO/z8KAA
AAQAAAAQEBXjJ9z+0u/SVgLHorYSQEAAAAA)

Subject: RE: TBD-6 and CLST Agreements Meeting
Sent Date: 7/22/2004 7:59:13 PM
Received Date: 7/22/2004 7:53:46 PM
From: Gustavo Cragnolino

Created By: gcragno@cnwra.swri.edu

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"Asadul Chowdhury" <achowdhury@cnwra.swri.edu>
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Post Office: cnwra.swri.edu

Files	**Size**		**Date & Time**
MESSAGE	2090		7/22/2004 7:53:46 PM
AgreementCLST1.10..wpd		9520	
AgreementCLST1.10..wpd		9520	

Options
Priority: Standard
Return Notification: No
Reply Requested: Yes
Sensitivity: Normal
Expiration Date:
Recipients Received:

CLST 1.10

Wording of the Agreement:

Provide the documentation for Alloy 22 and titanium for the path forward items listed on slide 21 and 22 [1) measure corrosion potentials in the LTCTF to determine any shift of the potential with time toward the critical potentials for localized corrosion; 2) determine critical potentials on welded and welded and aged coupons of Alloy 22 versus those for base metal - particularly important if precipitation or severe segregation of alloying elements occurs in the welds; 3) separate effects of ionic mix of species in Yucca Mountain waters on critical potentials - damaging species (chloride, fluoride, possibly sulfate) from potentially beneficial species (nitrate, carbonate, silicate); and 4) determine critical potentials in environments containing heavy metal concentrations (e.g., Pb, As, Hg)]. DOE will provide the documentation in a revision to AMRs (ANL-EBS-MD-000003 and ANL-EBS-MD-000004) prior to LA.

Recommendation: This Agreements is Complete??? (subject to perform additional analysis)

Technical Basis Document No.6 - Appendix O

- Provides corrosion potential measurements for MA Alloy 22 in SDW, SCW, SAW and BSC at 60 to 90 °C and in concentrated NaCl, $CaCl_2$, and $CaCl_2$ + $Ca(NO_3)_2$ at 90 to 120 °C after long-term exposures (hundreds of days)

- Provides critical potential (mainly repassivation potentials) in concentrated NaCl, NaCl + K NO_3, $CaCl_2$, and $CaCl_2$ + $Ca(NO_3)_2$ at 60 to 160 °C using mainly CPP measurements

- Data is provided mainly for MA and welded specimens using multiple crevice assembly (MCA) with limited data for welded + thermally treated (173 h at 700 °C) specimens

- Separate effects of sulfate, carbonate and fluoride were evaluated in few tests

- No data provided for the effect of heavy metals, only limited references to literature

Basis for NRC Action:

- Most of the requested information in terms of the raw data is provided in Appendix O

- The important conclusions regarding the effect of environmental variables on the corrosion and critical potentials of Alloy 22 appear to be supported by the data

- In many cases the information is poorly analyzed and several conceptual mistakes in the analyses of the data are apparent

- Many experimental details that are relevant to the results are not provided and few details are provided regarding microscopic examination of the specimens after testing

- Although thermally treated specimens were included in the text matrix the data available are insufficient to evaluate the effect of fabrication processes on localized corrosion (information may be provided in CLST 1.15)

- Although welded specimens were studied, the test conditions preclude the evaluation of

any potential detrimental effect because highly concentrated chloride solutions were used in which no difference can be observed between MA and welded specimens (information may be provided in CLST 1.15)

- Even though some aspects of the analysis regarding heavy metals may be correct, the treatment of the information available is rather poor.

In summary, further internal analysis should be required to reach a final conclusion regarding the completion of this agreement.

CLST 1.10

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