

ASME
Research and Technology Committee
On
Water and Steam In Thermal Power Systems
Water Technologies Subcommittee

Minutes for Subcommittee Meetings Conducted on
October 22 and 23, 2003
Omni William Penn Hotel
Pittsburgh, Pennsylvania

Attendees:

Tony Banweg; Nalco Company
Ted Beardwood, Ashland
Jim Bellows; Siemens Westinghouse
Debbie Bloom; Nalco Company
Irv Cotton; Arthur Freedman Associates
Bob Cunningham
Dave Daniels; M&M Engineering
Jim Dromgoole; Fort Bend Services
Bob Holloway; Holloway Associates
Mark Janick; Bechtel
Colleen M. Kulick; Parsons E&C
Roger Light; Dow Chemical
Bill Moore; Calpine
Len Olavessen; Buckman Labs
Jim Robinson; GE Betz
Mike Rootham; Mike Rootham & Associates
Jean Sabourin; Agrium
Tony Selby; Water Technology Consultants Inc.

Subcommittee Business

- Minutes from the Gaithersburg meeting in May, 2003 were reviewed and approved. It was noted that some members were not receiving electronic mail versions of the minutes. A Subcommittee roster was circulated for all members to verify current email addresses and D. Bloom will update the mailing list.
- The Subcommittee website content was reviewed. The website contains the Mission Statement; minutes of previous meetings; the agenda for the next Subcommittee meeting; and a current membership list with email addresses.
- The next scheduled meeting will be April 27th through April 29th, 2004; at the NIST campus in Gaithersburg, Maryland. April 27th is a Water Technologies Subcommittee workday; and the main committee meeting is April 28th and April 29th.
- The Consensus Lay-up document requires some revision, and an errata issued. B. Moore, M. Rootham and A. Banweg will review the document and forward errata

recommendations to M. Tinkleman by the end of January, 2003. The errata will be published on our website as well as provided in printed format.

- After some discussion, it was agreed that meeting minutes and meeting agendas will be posted on the website more quickly than in the past
- L. Olavessen volunteered as secretary for the Subcommittee
- D. Daniels selected as the new Subcommittee chairperson; as D. Bloom has been selected as 2nd Vice Chairperson for the main committee
- A request from the Research Committee on Power Plant and Environmental Chemistry for collaboration with this committee on projects of mutual interest was discussed. There was general agreement to explore this proposal. L. Olavessen, M. Tinkleman and R. Jacobsen to follow up on this proposal. They will contact the Research Committee on Power Plant and Environmental Chemistry and arrange to make a presentation to them at their next meeting in April, 2004; and develop a path forward toward establishing a working relationship with them. This task group will report progress to this Subcommittee at the NIST Gaithersburg meeting in April, 2004.
- The morning's ASME session at IWC 2003 was discussed, with an assessment that the presentations on "Amine Use in Steam Water Cycles and Boilers – The State of Our Knowledge"; and "Precommissioning of Combined Cycle Plants" drew the most interest and participation. After discussion, it was decided to make amine use the focus of next year's ASME sponsored session at IWC 2004.

At present, the intended scope of the session will include an overview of progress on the ASME Amine Project, and then both pro and con boiler system user experience presentations. The intent is to present both sides of this issue. The Subcommittee will contact members of the HRSG Users' Group, as well as members of the ASME Research Committee on Power Plant and Environmental Chemistry to solicit their participation in the session.

Debbie Bloom to coordinate the program as chair of the ASME session at next year's IWC.

- A discussion concerning new projects and their priority was held:
 - A "Management of Data, Analysis and Response to Conditions" project was discussed. The logic of "completing the loop" from the monitoring and sampling guidelines to necessary actions was put forward by Irv Cotton. Several people offered modifications to the project, such as: modeling two representative systems to be used for tailoring to specific plant configurations; TAPPI and other organizations' work to be researched; on line instrumentation calibration and calibration methods. I. Cotton, J. Sabourin, M. Rootham, R. Light and L. Olavessen expressed an interest in participating in this task group.
 - Redbook Chapter 17 revision interest
 - "HRSG Start Up and Cycling Operation Chemistry". Discussion centered around the fact that this area is currently being researched, as existing chemistry does not appear to apply, to obtain good recommendations.

- “Long Term Mothballing of a Steam System”. Discussion centered on a Material Technology Institute publication as a reference; that this issue is an extension of the Lay-up guidelines that were recently published by this Subcommittee. This project was viewed as a lower priority effort, as other published resources are already available.
- Debbie Bloom suggested that with our time constraints, the Subcommittee needed to think about these suggested projects, and that we will vote on new project priorities at the Gaithersburg meeting in April, 2004. We will also decide on how to work on projects. Either break up into small groups for each project, then a peer review process to permit more projects to be worked on concurrently; or, continue the current practice of working together in one group.

AMINE PROJECT

Mike Rootham led the discussion on this project. The discussion was on preparing a project proposal for submission to M. Tinkleman, for approval by ASME. Funding strategies were discussed; as were test parameters such as temperature ranges, amines to test, and metallurgies to include. Additionally, there was discussion on test protocol detail, as well as the use of software to minimize the number of actual data points needed to produce valid conclusions. The sequence of testing was also addressed.

While no decisions were made, the current task group of M. Rootham, J. Bellows, D. Bloom, and J. Robinson will develop a first draft of the project plan and circulate it to everyone in the Subcommittee by the end of January, 2004. All responses back to this same task group are required by the end of February, 2004. The revised project plan will be used to initiate funding requests and as a talking paper with Digby MacDonald to refine the test plan protocols.

SAMPLING AND MONITORING PROJECT

Irv Cotton led the discussion on this project. This was the final review prior to issuing a final draft that will be voted on via paper ballot. There was discussion that the project needs to better address HRSG systems with system diagrams. Additionally, Irv Cotton to make certain the ASTM references are still current and applicable. The Subcommittee broke up into three working groups to review assigned sections of the draft.

Irv Cotton to finalize draft after including inputs from today’s workgroups, and submit for ballot to Debbie Bloom and David Daniels.

HRSG FEEDWATER/BOILERWATER PROJECT

David Daniels led the discussion on this project. Volunteers were solicited to undertake a review of specific sections by January of 2004 and provide recommendations to David.

The following list details voluntary assignments:

- Sections 1 & 2, Introduction and Scope: R. Holloway and D. Simon II
- Section 3, Design Considerations: C. Kulick and B. Cunningham
- Section 4, Objectives of HRSG Steam Cycle Chemistry: A. Selby and L.Olavessen

- Section 5, Deriving Chemistry Operating Limits: J. Robinson and A. Banweg
- Section 6, Water Chemistry Guidelines/Tables: J. Robinson, A. Banweg and B. Moore
- Section 7, Lay Up and Start Up Practices: Unassigned as covered elsewhere
- Section 8, References: M. Rootham and J. Bellows
- Additional Sections to be Written
 - OT for HRSG: A. Banweg
 - Limits on Evap Cooler Water: Unassigned
 - Limits for HRSG's on Softened Water: J. Robinson Paper
- Proofread and edit final document: D. Simon II and R. Holloway

The group made many suggestions on the details of the document that are too numerous to list in the minutes, but will be reflected in the work of the individuals listed above by January's deadline. The amine project work will also be reflected in this document.

HRSG PRECOMMISSIONING PROJECT

Ted Beardwood led the discussion on this project. Ted described status of project which has been to gather and review reference materials. Ted to write initial draft and have it ready by April, 2004 meeting in Gaithersburg. Len Olavessen will also be involved in this task group, assisting Ted. Liaison with the HRSG Users' Group and the Research Committee on Power Plant and Environmental Chemistry will be aimed at obtaining OEM and user inputs to this document.

Ted will send his progress paper, that was presented at IWC this week, to all Subcommittee members by the first week in November.