

Minutes of Properties of Steam Subcommittee  
Pittsburgh, October 18, 2004

Attendance: Bill Parry , Dan Friend, Dick Jacobsen, John Gallagher, Jan Sengers, Anneke Sengers, Jim Bellows. Len Olavessen and Tony Banweg participated in discussions on PPEC.

**(1) Agenda approved.**

**(2) Minutes of Gaithersburg meeting approved**

**(3) NIST-ASME Steam Tables**

There have been 44 sales, 14 with source code and 1 new license. Version 2.21 came out in June with three minor changes. NIST will not issue a book until new transport properties formulations are completed.

**(4) ASME Steam Tables (print and software)**

In the last 12 months, 111 books, 14 professional licenses and 3 student licenses have been sold. Totals are 795, 470, 34, respectively. There are 192 copies of the books left.

No new errata. Existing errata are on the Website.

The plan is to make the next press run be 500 copies with a new title page and with the errata fixed. Additional backwards equations will be covered by reference only. **Allan should get revised edition ready for Spring 2005 meeting.** The second edition will await the transport properties and include more backwards equations.

Technical support of the software: John Gallagher reported a flurry of inquiries with easy answers. There was one inquiry about licensing as embedded software, which was referred to ASME Technical Publications. No new bugs have been discovered. There have been numerous inquiries about a DLL version. **Our goal is to have the DLL ready for testing by the Spring 2005 meeting. Bill Parry is leading the effort.**

**Jim Bellows will investigate getting ASME Student help at UCF for testing of new backwards equations.**

There was a discussion of future computing language for the steam properties. Should we stay with FORTRAN or move to another language like C or Basic. It was left unresolved. **People on the subcommittee should consult programmers about what language will be used for engineering computing in the future.**

**The Tabular Taylor Series Expansion issue is to be put on the April 2005 agenda as a possible long term replacement for Industrial versions.**

**(5) ASME Restructuring was outlined by Dick Jacobsen.**

Details are available on ASME website.

**(6) Allan will send out any Website issues to the subcommittee and we will attempt to solve them by the Spring 2005 meeting. Work is needed on frequently asked questions both in the ASME and IAPWS Web pages.**

**(9) IAPWS Matters**

Jan and Dan initiated a new viscosity formulation last summer. A preliminary correlation has been produced at NIST. A number of problems came to light, related to the much larger pressure range desired, and inconsistent data sets. **Jan will review the outcome. They hope to have something for the IAPWS evaluation Committee by December 2004.** The thermal conductivity will be visited later.

(9e) The Greece National Committee Website for the next IAPWS meeting is working.

**Dan Friend will send a letter expressing concern that the Helmholtz Award is not working. The letter is to the Helmholtz Award Committee.**

There is an issue of recognition of company contributions to IAPWS in all forms, and issue of importance to our subcommittee. The recommendations are spelled out in detail in the IAPWS Kyoto Minutes on p. 62. These came originally from Olavessen, and Cooper, Denmark, was supposed to chair a committee on awards, to study these issues. Apparently, Cooper did nothing on it. Anneke has alerted Olavessen (who was not in Kyoto) to this fact, in the hope he would follow up.

The subcommittee reviewed a number of possibilities for the Helmholtz Award. **Jan Sengers, Anneke Sengers, Jim Bellows and Dick Jacobsen will find candidates to propose by January 31, 2005.**

The subcommittee selected a candidate for IAPWS fellow. **Bill Parry will lead the application process, due January 31, 2005.**

**(10) Membership:** Abraham Engada has withdrawn from the subcommittee.

**(11a) Books to our sponsors**

The subcommittee decided to give GE, Siemens Westinghouse, and EPRI copies of the IAPWS monograph and of the 14<sup>th</sup> ICPWS Proceedings and authorized the necessary funds. **Allan Harvey is asked to execute this task. Jim Bellows will supply cover letters.**

**(11b) Discussion of relationship IAPWS Power Plant Chemistry Working Group (PCC) and Properties of Steam subcommittee with Power Plant and Environmental Chemistry Committee (PPEC)**

The review was done in two stages. Most of it was done after Olavessen and Banweg joined. The 14<sup>th</sup> ICPWS was reviewed, see further under 11b. At this point in the time, the need to get the IAPWS ICRN review committee work done was emphasized.

Tony Banweg and Len Olavessen joined. Len Olavessen has been working with Andre Zeijseink and the PCC chat room is ready to go.

PPEC is the ASME counterpart to IAPWS PCC. It is closed, but cooperative in sharing information. They should be able to provide a priority listing for PCC. **Len, a PPEC member, will present on PPEC at our committee's April meeting.** Ways of engaging PPEC in IAPWS matters were explored. **Jim will make sure that PPEC members Jim Mathews and Tom Gilchrist (Steve Shulder, Ronny Pate were also mentioned) are invited to the April meeting in Gaithersburg, and see that they get the PCC agenda for the IAPWS meeting in Greece in July. Len will work with Tom Gilchrist to develop a priority list to give to PCC.** We offer PPEC the opportunity of wider world consultation and solution for long term problems. We hope that PPEC will send a representative to PCC.

#### **(12) Subcommittee Meetings, Gaithersburg, April 27-28, and Orlando, fall 2005**

We are planning a seminar for the April meeting in Gaithersburg, April 27, 2005. The subject will be corrosion at the fundamental level. We are hoping to have Digby Macdonald (Penn State), Anne Chaka (NIST), Len Olavessen (Buckman), and Andre Anderko (OLI). The presentations are to be 45 minutes including discussion, but Digby gets an hour. We will have the seminar on Wednesday afternoon. The speakers are to be reminded that they should assume no prior knowledge by the audience.

**Dan Friend will go through the ICPWS lists and invite all Americans, particularly those that are on IAPWS committees, to Gaithersburg in the Spring. Bellows should get e-mail addresses so he can send agendas.**

**Jim will investigate a weekend meeting for Fall 2005 at SWPC in Orlando. Meet Saturday afternoon and Sunday Morning.**

**The committee approved a working group of Jim Bellows, Dan Friend or Allan Harvey, and Len Olavessen for the Seminar in April. They have a budget of no more than \$3000 and a request to be economical. The seminar will be limited to 3 speakers (4 speakers).**

The working group will widely advertise the seminar, producing an electronic flyer. It should be sent to ASME News, NIST, PPEC, DOE and other government agencies in the area.

For the April meeting, matters pertaining to PCAS and PCC go on Wednesday, April 27, 2005. Other items on Thursday. Due to the Wednesday seminar, the subcommittee meeting extends to 3 PM on Thursday. The April Agenda should have decision items flagged.

The fall meeting is to be at Siemens-Westinghouse in Orlando, and we will explore the possibility of starting the meeting on Sunday afternoon.