

Minutes of the IAPWS working group IRS, Stockholm, 29. June – 2. July 2015

(Numbering of topics follows TPWS agenda)

1. Ingo Weber opened the session for IRS at about 11 am, 29. June 2014. The agenda was adopted with an additional topic 13-IRS on the future of the WG.
2. Anurag Singh was appointed clerk of minutes.
3. Covered in TPWS / SCSW minutes.
4. Covered in TPWS / SCSW minutes.
5. Industrial Requirements and Solutions for Steam Property Calculations
 - Report of the Task Group “Industrial Advisory Note”

Ingo Weber gave an overview on the “Industrial Advisory Note” and its brief history. Michael Hiegemann reported on the task. He suggested that either a document should be created that compiles all relevant existing documents in order to have a document that is specific and easy to refer to. The other option would be to extend the existing advisory notes #2 to reflect the relevant documents and revise it with a new title with separate sections for specific subjects that cover beyond thermodynamic properties => change to thermophysical properties. The WGs had a significant discussion on what kind of document to have in this regard. Final decision was not to make amendments to advisory note #2. Instead it was decided that a draft separate advisory note document for industrial needs specifically steam power industry will be created (Action item for the existing task group). Allan Harvey & Jeff Cooper will perform an updated to advisory note #2 to reflect current status.
6. Proposal for an IAPWS Guideline on the Fast Calculation of Steam and Water Properties Using Spline Interpolation (SBTL)
 - 6.1. Report of proposers

Matthias Kunick gave a talk on the proposed guideline emphasizing on topics added since last years meeting, specifically the metastable region for application to IAPWS-IF97 and general application to the scientific formulation IAPWS-95. Questions on comparison of calculation time between SBTL applied to IAPWS-IF97 and SBTL applied to IAPWS-95, answer being that computing times are comparable. Michael Hiegemann commented that the method itself is generic.
 - 6.2. Report of Evaluation Task Group

Adam Novy presented a report on validation/testing of SBTL. He reported that very convincing results came out of testing in various environments. It is the recommendation of the evaluation task group that the draft should be accepted.
 - 6.3. Formal consideration of Guideline

Ingo Weber informed that the draft guideline had been distributed to the WGs members in February 2015. Comments were received on editorial topics of the guideline (e.g. structure of the document). The WGs voted and the technical content of the guideline was accepted unanimously. The document will be proposed to the EC for acceptance as an IAPWS guideline pending completion of the editorial changes. Ingo Weber thanked the authors for their extensive work on the topic.
7. Covered in TPWS / SCSW minutes.

8. Covered in TPWS / SCSW minutes.

11. Covered in TPWS / SCSW minutes.

12. Covered in TPWS / SCSW minutes.

11. IRS: Future of WG IRS

Ingo Weber raised the question about the future of WG IRS because after acceptance of the SBTL guideline there will be no other product in the works. Discussion evolved on further topics for future work:

- A few technical topics were identified (desalination, H₂O-CO₂ mixtures, erosion-corrosion on ST blades due to droplet formation, etc.) but either demand is not (yet) existing in industry or the topic is not within IRS scope.
- It was discussed that for verification of IAPWS-IF97 software implementations a more extensive table of check points (more than currently available in the releases / supplementary releases) would be desirable.
- Also the future of the industrial H₂O properties standard was discussed. Probably no specific industrial formulation would be developed, rather a SBTL-type approach based on the scientific standard would be applied. However it currently seems that this topic is not valid unless there is a new scientific formulation.

A potential proposal could also be to make WG IRS dormant for the time being. Danger with this is the loss of members due to missing justification for travel to meetings. The discussion will continue throughout the year and at the next meeting in 2016.

16. Covered in TPWS / SCSW minutes.

17. Covered in TPWS / SCSW minutes.

18. IAPWS Certified Research Needs (ICRNs)

No ICRNs need WG IRS attention.

20. Other business:

20.1. Report on International Collaborative Projects

No International Collaborative Projects need WG IRS attention.

20.2. Discussion on IAPWS document identification

Covered in TPWS / SCSW minutes.

20.3. Symposia for 17th ICPWS in Prague, 2018

Covered in TPWS / SCSW minutes.

21. Membership:

No changes in membership are necessary.

22. Contribution to Press release will be done by the WG chair

23. Formal motion to the EC will be prepared by the WG chair

24. Ingo Weber adjourned the meeting at about 14:30, 2. July 2015