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Minutes of the Meetings  
of the  
Executive Committee  
of the  
International Association for the Properties of Water and Steam  
held in  
Witney, United Kingdom  
3-8 September 2006

Plenary Session. Monday, 4 September 2006. 8:30am

The President of IAPWS, Dr. Frantisek Marsik, welcomed the Executive Committee (EC) and other IAPWS members to Witney for the EC and Working Group (WG) Meetings of IAPWS. The President officially opened the 2006 EC Meetings by introducing the National Delegates. Each of the member countries of IAPWS was in attendance with the exception of Argentina/Brazil, France, Greece, Italy and Russia.

The President asked the head of the BIAPWS Committee to provide some comments. Harries welcomed everybody and indicated that ABB, British Energy and RWE nPower were sponsoring the 2006 IAPWS meetings.

1. Adoption of Agenda

A provisional agenda had been posted on the IAPWS Website for all IAPWS members by the Executive Secretary in April 2006. The Executive Secretary indicated two additional items relating to the Gibbs Award and Election of Officers for 2007 and 2008. There were no suggestions from the EC. The agenda was then approved by the Heads of all National Delegations and forms Attachment 1 of these minutes.

2. IAPWS Business and Appointment of Committees

2.1 Press Release.

The President asked Bellows and Cooper to serve on this Committee. The Press Release is discussed in Minute 17.1 and Attachment 11.

2.2 Evaluation Committee on International Collaboration.

The President indicated that only one proposal had been received by the Executive Secretary prior to the meeting. The President reminded the EC that the Committee to review any proposals received by the end of the day would consist of the WG Chairmen, with the President and Executive

Secretary as ex. officio members. A chairman would be chosen by the Committee. The discussion of this Committee is reported in Minute 14.1 and Attachments 9 and 10.

## 2.3 IAPWS Awards Committees

### 2.3.1 Helmholtz Award Committee

The President indicated that there was an Helmholtz Awardee this year and that the Award would be presented at the Symposium. He then reminded the EC that the Helmholtz Committee for the 2007 award would consist of a member from Denmark, France, Germany, Greece and Japan. The President asked the Danish delegate (Daucik) to organize the committee and to report back to the EC on Friday with the names of the members of this committee (Minute 15.1).

The President indicated that a number of concerns about the process and procedures for the Helmholtz Award had been raised over the last few years. He suggested that the EC needed to review the procedures developed in 1999 at the Canada EC Meetings through a small committee and report back to the EC on Friday. He requested the US Delegate (Friend) to chair this committee. Cooper and Svishchev were added as members with the President and Executive Secretary as ex officio members.

### 2.3.2 Honorary Fellow Award Committee

The President requested that Daucik take over as the Chairman of this committee from Fernandez-Prini for 2007. Tremaine was added as the other member. The IAPWS President would be ex. Officio.

### 2.3.3 Gibbs Award Committee

The President indicated that because of the increased frequency of the ICPWS, it was time to start the process to select the 2008 IAPWS Gibbs Awardee. He then requested each WG to nominate one member for the Gibbs Award Committee at the EC on Friday. At that meeting an EC Member will be selected to Chair the Committee (Minute 15.2).

## 2.4 Host Country for 15<sup>th</sup> ICPWS

The President requested the German Delegate to provide an update. Rukes indicated that arrangements are moving along nicely to organize the 15<sup>th</sup> ICPWS in Berlin in 2008. More information would be provided at the EC Meeting on Friday (Minute 17.2). Rukes indicated that the International Program Committee would meet during the week as well as

the German Organizing Committee. He also indicated that the German National Committee had received a request from the organizers of a Nuclear Water Chemistry Conference to hold the ICPWS in conjunction with it.

## 2.5 Other Business Considered to Require Special/Extensive Discussions

Vice President Cooper reported that there would be activity during the week on Seawater and that there had already been some association with IAPSO. He proposed that a small group be formed to review the possible IAWPS direction and collaborations. The Heads of the WGs and Tremaine were suggested for membership with Feistel as the Chairman.

The US Delegate, Friend, indicated concern that five IAPWS Member Countries were absent from the 2006 EC Meetings and suggested a small committee to review possible ways of increasing the attendance of members. Friend was nominated to chair the committee with Harries, Watanabe and Cooper as members, together with the President and Executive Secretary as ex officio members

## 3. EC Mandate to Working Groups and Membership

### 3.1 Releases, Guidelines and Certified Research Needs.

The President asked the Executive Secretary to review the status of various Releases, Guidelines and ICRNs that would need action by the WGs and the EC during the week. The Executive Secretary indicated that one Draft Release had been forwarded to the Heads of National Committees in March (Draft Release on Ice). No comments had been received prior to the meeting so the TPWS WG needed to provide a final review prior to presenting it to the EC on Friday for approval.

The Executive Secretary then noted that ICRNs 10 and 13 would need action by the respective WGs during the week.

### 3.2 IAPWS Restructuring

The President indicated that there was still one open item from the Restructuring exercise over the last few years. This related to the Task Group on Education and Outreach under the chairmanship of Corti with members Kretzschmar, Safarik and Lvov. The president requested that this Task Group reported back to the EC on Friday on any activities.

### 3.3 Working Group Directions.

The President reminded the WG Chairmen that they should only report to the EC on Friday, those activities that needed approval or discussion by the EC.

#### 4. Preview by WG Chairmen of Weeks Activities

President Marsik requested each WG Chairman to review briefly the main topics which would be covered in their WGs during the week. The details of these WG meetings are covered in detail in Minutes 7, 8, 9 and 10 (Attachments 4, 6, 7, and 8).

#### Activities During the Week

The first day activities of the WGs and Executive Committee were followed by WG meetings on Monday, Tuesday and Thursday. The Symposium entitled “Advances in Power Plant Chemistry” was conducted on Wednesday. The program is shown in Attachment 2.

The full IAPWS program for the week is shown in Attachment 3.

#### Executive Committee Meeting. Friday, 8 September 2006

President Marsik opened the continuation of the EC Meeting at 8:35am. All members of IAPWS were present except Argentina/Brazil, France, Greece, Russia and Italy. In total 26 people were present. Marsik first asked the EC if there were any additional items that should be added to the Agenda. None were suggested. The Executive Secretary showed the latest Agenda with additional items relating to the new activities from the Monday EC Meeting.

#### 5. Acceptance of Minutes of Previous Meeting

President Marsik asked for comments and changes to the minutes of the EC meeting held in Santorini, Greece in July 2005. No changes were noted, thus the 2005 Minutes were accepted.

#### 6. President's Report

President Marsik provided the following comments. He first commented that all four working groups continued to be very active. He indicated that it was very

exciting that a new common task group was being discussed with members of IAPSO/SCOR (Scientific Committee on Oceanic Research). He then noted that there were two proposed International Collaborations to be discussed. He reported that two IAWPS Honorary Fellows had been created and that the Helmholtz Award had been given to a Chinese scientist.

7. Report and Recommendations of Thermophysical Properties of Water and Steam Working Group (TPWS)

Chairman Kretzschmar highlighted only those activities from the TPWS working sessions during the week, which needed action by the EC or which he thought were of interest to the EC. He indicated that most of the WG activities had been conducted with IRS. Full Minutes and the WG Agenda can be found in Attachment 4.

- 7.1 Kretzschmar indicated that the WG had reviewed the Release on the Thermodynamic Properties of Ice. Both TPWS and IRS had approved the release and recommended to the ES that this become an official IAPWS Release

**The EC approved this Release unanimously.**

- 7.2 Feistel had presented a new equation for the sublimation curve for ice based on the new ice thermodynamic formulation and IAPWS-95. He reported that a Task Group had been formed to develop a supplementary release and that he would form an evaluation task force during the next year if progress was fast enough.
- 7.3 A new release on Viscosity will be proposed to the EC next year and a preliminary formulation on conductivity will be available at the 2007 IAPWS meetings with a final version ready for approval in 2008.
- 7.4 The Chairman indicated that a few editorial corrections to IAPWS-95 and to Advisory Note #1 had been made by the WG. These changes did not affect the formulation. The Editorial Committee had reviewed the changes. The WGs TPWS and IRS recommended that the EC approve these changes.

**The EC approved these changes unanimously.**

- 7.5 The Chairman indicated that Wagner had prepared a CD with documentation of the experimental data that was used in the development of IAPWS-95 and recommended that the EC approve this information being placed on the IAPWS Website.

**The EC approved this unanimously.**

- 7.6 Kretzschmar reported that the Workshop on Seawater on Tuesday afternoon had been a big success. He also reported that Feistel had developed an ICRN on Seawater. The Chairman indicated that this would be finalized and forwarded to the Executive Secretary for a Postal Ballot. Tremaine would be added to the IAPWS Task Group on Seawater.
- 7.7 An Evaluation Task Group had been formed to review the draft release on the Ionization Constant of Water prepared by Lvov. It was planned to propose this release to the EC for approval in 2007.
- 7.8 Cooper and Sengers will check the influence of the ITS-90 temperature scale on the current releases for heavy water and possibly suggest a revised release at the 2007 EC Meetings.
- 7.9 A Task Group had been appointed to work on the equations for properties of liquid water at standard atmospheric pressure. The Chairmen indicated that he would form an Evaluation Committee during the year if this work proceeded quickly.
- 7.10 The Chairman requested that the EC authorize spending up to \$3000 to pay page charges for the last 2 of the 4 papers describing supplementary “backward” equations, which will be submitted in 2006 and 2007.

**The EC approved this unanimously.**

- 7.11 The Chairman next requested that the maintainer of the IAPWS website (Harvey) would develop a location on the website where presentation materials from the WG could be placed so that access could be restricted to members only. Discussion of the EC then focused on whether other WGs would also be interested in such a facility. All WG Chairmen agreed.
- 7.12 The Chairman reported that Sifner would be the TPWS representative on the 2008 Gibbs Award Committee.
- 7.13 On Membership of TPWS, the Chairman proposed M. Nakahara as a new member.

**The EC approved this membership change unanimously.**

Immediately following the TPWS Report, Feistel made a short report on the activities on Seawater during the week. These are provided in Attachment 5.

8. Report and Recommendations of Industrial Requirements and Solutions Working Group (IRS)

Chairman Parry provided the IRS Report to the EC. Full Minutes and the Agenda can be found in Attachment 6. The Chairman indicated that many of the technical items had already been covered by Kretzschmar in the TPWS report. He then presented the IRS WG items that needed action by the EC.

8.1 Parry reported on the WG discussions of Region 5 Extension of IAPWS IF-97 to 50 MPa. He indicated that there had been two main points of discussion: a) amending the existing release on IAPWS-IF97 but being careful regarding the naming in order to minimize the impact on the user base, and b) keeping the existing release on IAPWS-IF97 unchanged but creating a supplementary release solely dealing with the new equation for region 5. He then made five recommendations to the EC:

- \* Document changes to Region 5 using a Revision of the original Release of IAPWS-IF97.
- \* Inclusion of Subheading “The revision only relates to the extension of region 5 up to 50 MPa”.
- \* The editorial committee should develop wording to ensure that readers understand that the previous region 5 equation has been replaced by the new equation.
- \* Individual national committees should contact their industrial representatives for their opinion on revising IF-97. Any feedback should be channeled to the IRS WG Chairman by 31 December 2006.
- \* An evaluation committee has been formed and a timetable established which should allow this revision to be adopted at the annual meeting in 2007.

**The EC approved the WG recommendation to revise the Release unanimously.**

8.2 Parry reported on Advisory Note No. 3 on Thermodynamic Derivatives from IAPWS Formulations. A draft for an Advisory Note no. 3 on thermodynamic derivatives from IAPWS formulations has been prepared. The draft is based on the presentation given at the IAPWS 2005 meetings in Santorini but extended by guidance for the cases for heavy water and ice. A schedule was established which should allow this Advisory Note to be adopted at next year’s annual meeting (2007).

8.3 The Chairman next reported on “Steam Tables on Pocket Calculators for Students” which could be available on the IAPWS Website. He indicated that at the 2005 Santorini meeting it was decided to make the “Steam Tables on Pocket Calculators” available on the IAPWS website. The



German National Committee verified and accepted the download pages for the pocket calculator steam tables. Since then a link from the IAPWS website to these download pages had been made active. However, the location of the link is somewhat concealed and some discussion developed on how to better present this type of information. Since this is part of the “educational and outreach” efforts it was suggested to add a main topic “educational resources” to the IAPWS website which could contain all the links to available software.

- 8.4 The Chairman reported that Rukes would be the WG representative on the 2008 Gibbs Award Committee.

9. Report and Recommendations of Physical Chemistry of Aqueous Solutions Working Group (PCAS)

Chairman Lvov provided the PCAS Report to the EC. Full Minutes and Agenda can be found in Attachment 7. He covered the following items with the EC:

- 9.1 The Chairman indicated that the PCAS WG had proposed an International Collaboration project on “Predictive Scheme for Standard Thermodynamic Properties of Aqueous Substitutes Benzenes over a Wide Range of Temperatures and Pressures” by Tremaine (Canada) and Sedlbauer (Czech Republic). Review of this is covered in Minute 14.1.
- 9.2 The Chairman requested a 3-year extension on ICRN Number # 10, Contact: D. Palmer (pH Measurements), and a 3-year extension on ICRN Number # 13, Contact: T. Nemec, F. Marsik (Surface Tension of Aqueous Solutions). This latter ICRN had previously been supported by PCC and would now be transferred to PCAS.

**The EC approved these ICRN changes unanimously.**

- 9.3 The Chairman indicated that a new IAPWS Release on “Ionization Constant of Water over Wide Ranges of Temperature and Density” would be finalized for the 2007 IAPWS meeting
- 9.4 Lvov proposed that Mr. Tomas Nemec (Czech Republic) become a member of PCAS.

**The EC approved this membership addition unanimously.**

- 9.5 The Chairman reported that an Interim Report on the IAPWS International Collaboration on “Irreversible Thermodynamics of PEM Fuel Cells” by Ondrej Mican, Frantisek Marsik, and Serguei Lvov had been prepared for this 2006 WG meeting and that a final report will be submitted at the 2007

IAPWS meeting. At this point in the EC Meeting it was suggested that all International Collaboration Reports be placed on the IAPWS Website in future.

- 9.6 Lvov indicated that Tremaine would be the PCAS representative on the 2008 Gibbs Award Committee.

10. Report and Recommendations of Plant Cycle Chemistry Working Group (PCC)

Chairman Zeijseink highlighted those activities that needed action/approval by the EC. A full written report of the PCC WG activities forms Attachment 8.

- 10.1 Priority List. The Chairman indicated that the PCC WG had updated its Priority List, which gives the research needs as seen from the power plant chemistry perspective. This list should also be of interest for the other IAPWS working groups.

- 10.2 ICRNs. Zeijseink reported that five ICRNs had been drafted. The first four were new.

10.2.1. “Thermophysical Properties Associated with Ultra-Supercritical Coal-Fired Steam Generators”: in collaboration with PCAS (Dooley/ Palmer)

10.2.2. “Mechanism of Decomposition of Ion-exchange Resin”: (Daucik)

10.2.3 “Development / Application of Sensors (Ambient and High Temperature Sensors)”: in collaboration with PCAS (Maughan, Lister, Uchida/Lvov)

10.2.4. “Improved analysis of low concentration of metals (Fe, Cu, Co, etc)”: (Lister, Daucik)

10.2.5 “Research of Amines for the Power Industry” (Maughan)

A fifth ICRN on organics in the steam cycle was closed, and reopened with a different focus.

A new ICRN covering the presence of contaminants in the steam/water circuits, is being considered, and will be discussed in 2007 (Task group Bellows, Maughan, Hughes, Bignold, January 2007).

The PCC had considered the draft ICRN on dew point quantification in flue gas. It was agreed that this is an important topic and should be supported by PCC.

With respect to ICRN #13 "Surface Tension" a recommendation was made to Gabrielli (*in absentia*) to close this ICRN and to prepare a closure document. However, at the EC meeting the PCAS WG had already reported that this ICRN would remain active with support from PCAS (Minute 9.1)

- 10.3 International Collaboration. The Chairman indicated that the PCC WG had submitted a proposal for an International Collaboration Project on "Improved analysis of low concentrations of particulate oxides in water/steam cycles" which had been prepared by Lister, Daucik and Svoboda. Review of this is covered in Minute 14.1.
- 10.4 Guidance Document on Mechanical Carryover. The PCC Chairman reported that a draft document had been prepared by Gabrielli and had been circulated to WG Members. This will be a new type of document for IAPWS. General discussion on the draft had been favorable. The approach represents good common sense and is a step forward from earlier over simplistic guidance. There are a number of points of detail requiring clarification and amplification and so an *ad hoc* subcommittee has been formed to develop a final document on "Method to determine mechanical carryover". The draft will be presented to the PCC members for review by December 2006. The PCC target is to send it to the Executive Secretary for review within IAPWS by the end of February 2007.
- 10.5 PCC Membership. The Chairman proposed two new members for PCC: Dr. Andy Rudge (British Energy) and Dr. Hideki Takiguchi (Japan Atomic Power Company).

**The EC approved these membership additions unanimously.**

- 10.6 The Chairman indicated that Bellows will be the PCC Representative on the 2008 Gibbs Award Committee.
- 10.7 Election of PCC Officers. The Chairman indicated that he would be stepping down as chairman of PCC after serving for five years and that the PCC unanimously recommends that Vice Chairman Svoboda takes over immediately.

**The EC approved this PCC officer change unanimously.**

At the end of the PCC report the EC showed its appreciation for the chairmanship of Zeijseink over the last five years.

11. Editorial Committee Report

Chairman Harvey reported that the Editorial Committee had reviewed the new Release on Ice as well as made a number of revisions to one document approved in Santorini. Harvey also indicated that if anything needs to be changed in the Statutes and By-Laws then it should be done prior to the 2007 EC Meeting. A committee was suggested to review the Statutes and By-Laws prior to the 2007 EC Meetings (Editorial Committee and Watanabe). However before this was consolidated further EC discussion on this item was delayed until later on the agenda (Minute 12.2).

12. Membership and Associates

12.1 Members Defaulting on Dues.

The Executive Secretary indicated that according to the latest Swiss bank account statement (end of August 2006), the following countries had not paid the 2006 IAPWS dues: Argentina/Brazil, Denmark, France, and Russia. A representative of the Danish National Committee (Therkildsen) thought that this was a mistake and would check with the Executive Secretary. The Executive Secretary further reported that in 2005 France Russia and half of the Argentinean/Brazil National Committee had not paid the dues. In 2004 France and Russia had not paid the dues.

12.2 Committee on Non-Participating Members.

The President requested the Chairman to make a report of the Committee which had been formed at the Monday EC (Minute 2.5). Friend made the following recommendations to the EC:

12.2.1 Following the conclusion of this EC meeting, the Executive Secretary should send a letter to the head of each delegation which has not participated. This letter should indicate that participation of the delegation was missed; participation in the EC is one of the obligations of membership; inquiry into how IAPWS can assist in renewing the active participation of this national delegation; and hoping that future participation will be forthcoming. A similar letter should be sent to each participant in the delegation from these member countries.

12.2.2 Participants in this meeting informally contact their colleagues in the non-participating delegations indicating the importance of contributions from each National delegation.

- 12.2.3 The Executive Secretary annually indicates to the organizing committee of the local host country that they would be encouraged to assist heads of each delegation to participate in the meeting; such encouragement might include financial assistance such as reduced/waived registration etc.
- 12.2.4 A committee be formed to investigate the possibility of a re-organization of IAPWS, allowing individual memberships in addition to National memberships. This committee should report back to the EC at the 2007 meeting.

**The EC approved these recommendations unanimously.**

After this approval, the EC discussed linking this activity with the Statutes and By-Laws discussion (Minute 11) and formed the following Committee to review the continuing participation of member countries and any necessary changes to the Statutes and By-Laws: Watanabe (Chairman), Cooper, Harvey, Hruby, and Svoboda. It was also suggested that people would be invited from the non-participating member countries.

### 13. Executive Secretary's Report

#### 13.1 Financial, Auditors and Dues

The Executive Secretary reported that IAPWS remained on a sound financial footing with currently over SFrs104,000 in the Swiss bank account and about \$7,000 in the US account for a total of \$92,229 combined. The status as at 10 August 2006 in the bank accounts had been provided to each National Delegate present at the EC meeting.

The Executive Secretary next reported that the 2005 financial statements had been forwarded to the Auditors in January 2006. VDI in Germany had reviewed and approved them. Mr. Miyagawa had not yet replied. The financial statements for 2005 and the Auditor's report had also been provided to all the National Delegates present.

The Executive Secretary proposed that these organizations continue to act as auditors.

**The EC approved this unanimously.**

The Executive Secretary proposed to the EC that the dues structure for member countries remain unchanged for 2007.

**The EC unanimously agreed to this proposal.**

The Executive Secretary also provided a rough estimate of the income and known planned expenditures for 2006.

### 13.2 Time and Place of the 2007 and 2008 Meetings

The Executive Secretary explained that the next few member countries in rotation to hold the annual EC and WG meetings had indicated that they would not be able to host the 2007 meetings. He had then asked Svoboda to explore the possibility of hosting the 2007 meetings in Switzerland and asked Svoboda to brief the EC on the status. Svoboda then invited the IAPWS EC and WGs to Switzerland for the 2007 Meetings. Currently there is no Swiss National Committee but he will use the meeting to attract various interested parties. The final dates and location will be available by the end of October 2006. The EC enthusiastically approved holding the 2007 meetings in Switzerland.

The Vice President of IAPWS raised a question about whether a letter of invitation could be sent to IAPWS members.

The Executive Secretary indicated that discussion of the 2008 Meetings (15<sup>th</sup> ICPWS) would be presented later in the agenda.

## 14. Guidelines, Releases, Certified Research Needs, and International Collaborations

The President indicated that the Releases and ICRNs had been discussed within the WG Reports so no further action was required by the EC.

### 14.1 International Collaborative Projects.

The President asked the Chair of the Committee (Lvov) to report on the discussions during the week. The Chairman indicated that the Committee had reviewed two proposals for international collaboration. The details of the two proposals are provided in Attachments 9 and 10. The Chairman then summarized the two proposals for the EC.

“Improved Analysis of Low Concentrations of Particulate Metal Oxides in Water/Steam Cycles”. The IAPWS sponsors are Svoboda (Switzerland), Lister (Canada) and Daucik (Denmark). The young scientist is Piti Srisukvatananan at the University of New Brunswick, Canada. The requested contribution from IAPWS is \$6,500 for travel and subsistence.

“Predictive Scheme for Standard Thermodynamic Properties of Aqueous Substituted Benzenes over a Wide Range of Temperatures and Pressures”. The IAPWS sponsors are Tremaine (Canada) and Sedlbauer (Czech Republic). The young scientist is Jana Ehlerova at the Technical

University of Liberec, Czech Republic. The requested contribution from IAPWS is \$6,000 for subsistence.

The Chairman recommended to the EC that IAPWS support both proposals.

**The EC approved both Collaborative Projects unanimously.**

## 15. IAPWS Awards

### 15.1 IAPWS Helmholtz Award

The President reported that Xiang had been selected as the 2006 Helmholtz Awardee and that he had been presented with the award prior to his Helmholtz Lecture at the Symposium on Wednesday. He then asked the Danish Delegate for the names of the 2007 Helmholtz Award Committee. The 2007 Helmholtz Committee would consist of: Chairman Therkildsen (Denmark), Dorey (France), Wagner (Germany) Assael (Greece) and Nakahara (Japan). Nominations are due to the Executive Secretary by January 31, 2007.

The President next asked the Chairman of the Helmholtz Procedures Committee to review the results of this committee formed at the Monday EC meeting (Minute 2.3.1). Friend indicated that the committee (Cooper and Svishchev) had reviewed the current nomination procedures and made the following recommendations to the EC:

- \* Nominations can come from anyone (except self-nominations).
- \* Committee-selected candidate(s) should be reviewed by all National Committees prior to further processing.
- \* Nominations outside of IAPWS should be sent through the head of National Committee, when possible.
- \* Both industrially and academically oriented candidates should be encouraged.
- \* Candidate's age limit (40 years old) should be replaced by phrase "10 years from receipt of highest earned degree."

After some discussion ...

**The EC approved these recommendations unanimously and requested Friend to provide an updated set of procedures to the Executive Secretary.**

## 15.2 IAPWS Honorary Fellowships

The President reported that Bellows (USA) and Dooley (IAPWS Executive Secretary) had been elected Honorary IAPWS Fellows, following the established procedures and after unanimous approval through the postal ballot conducted by the President. The Fellowship Awards had been presented at the IAPWS Dinner on Thursday evening.

The President reminded the EC of the Awards Committee for 2007 with Daucik as Chairman and Tremaine as member with the IAPWS President as ex.-officio member. Nominations are due to the Executive Secretary by January 31, 2007.

## 15.2 IAPWS Gibbs Award

The President reminded the EC that the following people had been nominated by the WGs to be members of the 2008 Gibbs Award Committee: Sifner (TPWS), Rukes (IRS), Tremaine (PCAS) and Bellows (PCC). To ensure full member country participation the President suggested that the EC appointed Chairman for this committee should be from Japan. The Japanese Delegate (Watanabe) requested that Nakahara be selected for this important position. Nominations can be provided by National Committees and Working Groups and will be due to the Executive Secretary by 31 May 2007.

## 16. Election of Officers for 2007 and 2008

The President indicated that he would step down at the end of 2006 and that Vice President Cooper will assume the position of IAPWS President on January 1, 2007. According to the Statutes, the election of the next Vice President should be made at the end of the EC meeting in even years. The President and Executive Secretary had checked the recent history and proposed that the US National Committee should be asked to nominate one of their committee members for the position. The President asked the EC if there were any other suggestions. None were suggested, so he then requested the EC to approve this selection.

**The EC unanimously approved this selection.**

**Action: The US National Committee should inform the Executive Secretary of their nomination for Vice President after the next meeting of their committee, and before the end of 2006.**



## 17. New Business

### 17.1 Press Release

The President requested that the Press Release be projected for review by the EC. Suggestions were provided by the EC and the final version is contained in Attachment 11.

### 17.2 15<sup>th</sup> ICPWS

The President requested the Head of the German National Committee to provide a status report on the 15<sup>th</sup> ICPWS. Rukes provided the names of the International Program Committee and the German Organizing Committee and indicated that both committees had met during the week. The 15<sup>th</sup> ICPWS will be held in Berlin on 7-13 September 2008. The title will be “Water, Steam and Aqueous Solutions: Advances in Science and Technology for Power Generation”. Rukes then indicated that each WG had been asked to provide suggestions for the symposia and that the German Organizing Committee would develop an initial list and distribute it to the International Program Committee for final review. The next meetings of the International Program Committee will be during the 2007 IAPWS Annual Meetings and on 16-18 January 2008 in Berlin. In terms of publications there will be no bound proceedings but a CD and hard copy will be provided to attendees. The consensus of the following EC discussion was in agreement with this approach and that each of the symposia could be separately published in a respected technical journal, maybe as a special edition. Each symposia chairperson will be asked to organize this. Rukes finished his presentation by adding that a full financial projection for the 15<sup>th</sup> ICPWS would be provided at the 2007 EC Meetings.

### 17.3 IAPWS Restructuring: Education and Outreach

At Monday’s EC Meeting (Minute 3.2), the President had reminded the EC that the WGs had taken action on all the Committees and Task Groups of the IAPWS Restructuring with the exception of the Task Group on Education and Outreach. During the week the Executive Secretary had received a note from the Chairman of this Group (Corti) indicating that there had not been much activity over the last year and that he wished to step down from the Chairmanship. The President asked the new Chairman (Kretzschmar) to report on activities of the committee (Safarik and Lvov) during the week. The Chairman reported on the following four topics:

- \* The Members of IAPWS are urged to bring PhD Students or other young scientists with them to the IAPWS annual meetings and to the IAPWS conferences.

- \* The committee recommends that the annual meeting and conference fees for students are reduced drastically (to the amount for food). In this way, students from the country where the meeting or conference takes place will get the opportunity to attend the IAPWS annual meetings and IAPWS conferences. For students, rooms in a youth hostel near the meeting place could be offered.
- \* The IAPWS Website could be used for educational purposes. The starting point for this will be the Down Load of the CD "Steam Tables on Pocket Calculators". Steam Tables for Excel® and Mathcad® and other software for students can follow. It is recommended that an item "Education" should be added on the left menu bar. The software for students and substantial papers of the IAPWS meetings can be placed in the related page.
- \* For the future, IAPWS Summer Schools (2 or 3 days) in the week before the IAPWS meeting are recommended. The discussion of this matter should begin at the next meeting in 2007.

#### 17.4 Miscellaneous Items

The PCAS Chairman, Lvov, requested that the Agendas for the WG meetings at the IAPWS meetings be prepared as early and distinctly as possible.

Vice President Cooper wished to thank President Marsik for all the work he has accomplished during the last two years of his presidency.

#### 17.5 Review of Progress of Research in Member Countries

Written reports on progress in member countries were not reported to the EC but were either distributed to other members and the Executive Secretary during the IAPWS week, or sent to the Executive Secretary after the meetings. They are attached to these minutes as follows:

Britain and Ireland	Attachment 12
Canada	Attachment 13
Czech Republic	Attachment 14
Denmark	Attachment 15
German	Attachment 16
Japan	Attachment 17
USA	Attachment 18

#### 17.6 Participants

Attachments 19 and 20 provide lists of participants at the IAPWS EC and WG Meetings, and those extra BIAPWS Members at the Symposium in Witney, England in September 2006.

#### 17.7 List of Members

An up-dated list of members of the Executive Committee, Working Groups, and Honorary Fellows will be developed by the Executive Secretary following the Witney Meetings. This will be forwarded electronically to the Head of each National Committee.

### 18. Closing Remarks and Adjournment

The President thanked everybody for participating at this EC meeting. He particularly thanked BIAPWS for organizing the 2006 Annual IAPWS Meetings, and then he formally closed the 2006 EC meeting at 1:20pm.