

Chair: Mr. M. Sparrey, ABB Ltd., Oldends Lane, Stonehouse, Gloucestershire, UK  
Vice-Chair: vacant  
Secretary: Dr M. Robson, RWE npower, Laboratory Building, TSG Ferrybridge, Knottingley, UK  
Treasurer: Mr H.W. Lloyd, UK

## BIAPWS ANNUAL REPORT 2017

### 1 INTRODUCTION

The British and Irish Association for the Properties of Water and Steam (BIAPWS) is the UK and Ireland national committee of the International Association for the Properties of Water and Steam (IAPWS) and the representative body for Power Plant Chemistry in the UK and Ireland. BIAPWS is a not for profit organisation. This is the annual report of the activities of BIAPWS for the period from August 2016 to July 2017. A list of publications by BIAPWS members during this period is included in Appendix A. If you would like to know more about BIAPWS, please feel free to visit our web site [www.biapws.org](http://www.biapws.org) or e-mail BIAPWS at [contact.us@biapws.co.uk](mailto:contact.us@biapws.co.uk).

### 2 BIAPWS MEMBERSHIP AND MEETINGS

BIAPWS membership remains strong, with current support provided by twenty-three industrial sponsors, six honorary members, five ordinary members and eleven corresponding members.

BIAPWS committee meetings are held three times a year and attendance at these continues to be good, typically with around thirty people present. A recent change has been to expand the technical sessions at BIAPWS committee meetings to add value to meeting attendance. Industrial member's representatives are able to bring a colleague to the meetings to benefit from and contribute to the discussions.

### 3 BIAPWS POWER PLANT CHEMISTRY SYMPOSIUM

Each year, BIAPWS organises an annual symposia on power plant chemistry and water treatment. The 18<sup>th</sup> in this series of symposia was held at the University of Warwick, Coventry, on 14 – 15 June 2017. The symposium consists of introductory sessions on the fundamentals of power plant chemistry and water treatment, followed by more detailed technical presentations. The event remains well supported, with around 100 delegates and 13 exhibition spaces taken up in 2017. A copy of the symposium programme is included in Appendix B. A paper summarising the proceedings of the 2017 event has been published in Power Plant Chemistry journal.

### 4 IAPWS ACTIVITIES

BIAPWS has continued to support IAPWS through its formal membership and participation in IAPWS activities. A number of BIAPWS committee members are represented on IAPWS working groups. At the 2017 IAPWS annual meeting in Kyoto, Japan, BIAPWS will be represented by M. Sparrey and Adam Caswell of EDF. In addition, BIAPWS is represented on the executive committee of IAPWS.

## 5 BIAPWS AWARDS

BIAPWS offers selected sponsorship opportunities for student placements and schools events that aim to raise the awareness and generate new interest amongst students in the areas of science and technology relevant to the properties of water and steam, including power plant chemistry. This initiative has in the past proven highly successful, with many previous winners of the BIAPWS Student Award going on to full time employment in power generation.

Over the last 12 months, BIAPWS received no opportunities for sponsorship in 2017

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## 6 BIAPWS WEBSITE

The public facing pages aim to promote a better understanding of what BIAPWS and IAPWS are and what our activities include. The member's area now includes a library of technical information for our members from BIAPWS meetings and symposia. Further developments are planned to include training resources.

## 7 BSI REPRESENTATION

BIAPWS is currently represented on the three British Standards and Euro Norm Committees listed below of relevance to power plant chemistry and water treatment. However, there have not been any significant developments in recent years.

- PVE/2: Water Tube and Shell Boilers. The UK standards committee has responsibility for BS EN 12952-12:2003: "Water-tube Boilers and Auxiliary Installations - Requirements for Boiler Feedwater and Boiler Water Quality" and BS EN 12953-10:2003: "Shell Boilers - Requirements for Feedwater and Boiler Water Quality".
- CII/62: Treatment of water for boilers. The UK standards committee also has responsibility for BS 2486:1997: "Recommendations for Treatment of Water for Steam Boilers and Water Heaters".
- EH/3/6: Water quality - sampling. The UK standards committee is responsible for BS 6068-6.7:1994 (ISO 5667-7:1993): "Guidance on Sampling of Water and Steam in Boiler Plants".

## 8 INTERACTION WITH PROFESSIONAL ORGANISATIONS

BIAPWS maintains correspondence with a number of professional bodies with the aim of sharing information and closer working.

- BIAPWS is represented on the Energy Sector Interest Group of the Royal Society of Chemistry by John Greene;
- BIAPWS is also represented on the Water Science Forum of the Royal Society of Chemistry by Eric Huff;
- Richard Hill, who is a committee member of the Institution of Chemical Engineers (IChemE) Water Subject Group, is also a Corresponding Member of BIAPWS.

Mike Sparrey  
Chair, British & Irish Association for the Properties of Water and Steam  
September 2017

**APPENDIX A:**

**LIST OF UK AND IRELAND ORIGINATED REFERENCE PAPERS IN AREAS OF INTEREST.  
NO UPDATES CURRENTLY SUPPLIED IN 2017.**

**APPENDIX B:**

**WARWICK CONFERENCES**  
The University of Warwick, Coventry, CV4 7AL UK  
<http://www.warwickconferences.com/>

Early bird registration fees are available until 31 March 2017

**PROGRAMME**

**WEDNESDAY 14<sup>TH</sup> JUNE 2017, 12:00 – 17:00**

**INTRODUCTIONS TO POWER PLANT CHEMISTRY**

12:00 Registration and Lunch

13:20 Welcome and introduction

Mike Sparrey, Chair, BIAPWS

**13:30 Session 1: New Nuclear Update**

Presenters: Ruth Oakley (EDF Energy Generation)

Presenter to be confirmed (Horizon Nuclear Power)

Chair: Andy Rudge (EDF Energy Generation)

15:00 Break

**15:30 Session 2: Amine Chemistry**

Presenters: Properties and Chemistry of Amines - Alan Pomfret (GE Water)

Film-Forming Amines using the IAPWS Guidelines - Andre deBache (Kurita Europe)

Chair: Andy Rudge (EDF Energy Generation)

17:00 Close

19:30 Evening meal and entertainment, Warwick Conferences

BIAPWS Symposium 2017 Final

**BRITISH AND IRISH ASSOCIATION FOR  
THE PROPERTIES OF WATER AND STEAM**

A Member of the International Association for  
the Properties of Water and Steam

**BIAPWS**

www.biapws.org

**THURSDAY 15<sup>TH</sup> JUNE 2017, 09:00 – 16:00**

**POWER PLANT CHEMISTRY AND CORROSION**

|       |   |  |
|-------|---|--|
| 08:30 | Registration and Coffee   |  |
| 09:00 | Welcome and introduction  | Mike Sparrey, Chair, BIAPWS                          |
| 09:05 | Exhibitor introductions   | Mike Sparrey, Chair, BIAPWS                          |
|       | <b>Session 1</b>  | Chair: John Greene, Consultant                       |
| 09:20 | The Real Story on Steam Turbine Phase Transition Zone Damage  | Barry Dooley, Structural Integrity Associates        |
| 09:50 | CCGT Plant Preservation   | Paul McCann, Uniper Technologies Ltd                 |
| 10:20 | Break   |  |
| 10:50 | Cation Conductivity Measurement by Electrodeionisation  | Julie Gath, SWAN                                     |
| 11:20 | Cooling Water pH Discharge Monitoring   | Mark Robson, RWE Generation UK PLC                   |
| 11:50 | Open Discussion Session   |  |
| 12:00 | Lunch   |  |
|       | <b>Session 2</b>  | Chair: Eric Huff, BIAPWS                             |
| 13:00 | A Recent History of the Advanced Gas Reactor (AGR) Pod Boilers  | Ellie Laney, EDF Energy Generation                   |
| 13:30 | Off-Load Corrosion in AGR Reheaters – Summary of Investigative Work   | Adam Caswell, EDF Energy Generation                  |
| 14:00 | Break   |  |
| 14:30 | Four Years' Experience of Film-Forming Amine Treatment on a CCGT - The Analytical Chemistry Challenges and Achievements | Bill Smith, Uniper, and John Greene, Consultant      |
| 15:00 | A Modern Approach to Monitoring and Controlling Boiler Chemistry  | Andrew Mosley and Mark Robson, RWE Generation UK PLC |
| 15:30 | Open Discussion Session   |  |
| 15:55 | Closing Remarks   | Mike Sparrey, Chair, BIAPWS                          |
| 16:00 | Close   |  |