

## API POWERCHEM ASIA PACIFIC CONFERENCE 2018

The API PowerChem APAC conference is the pre-eminent power station chemistry conference, exhibition and training course in the southern hemisphere which the API is proud to be able to offer to the energy industry. This conference is the biennial event for power station chemists and their suppliers. The 2018 program began on the evening of Sunday 20 May and concluded on Thursday 24 May at the Novotel Twin Waters, on the Sunshine Coast.

This year's program and events were well supported by over 35 experts and eminent speakers and 85 delegates from around the world (i.e. Australia, New Zealand, Germany, Switzerland, Canada, Thailand) and more. The conference was composed of a diverse range of three days of presentations/exhibition followed by one day of technical training.

The primary aim of the conference is to provide up-to-date professional development for those working in the industry as well as those associated with it. The format of the conference allowed close interaction between speakers, presenters, exhibitors and delegates over the five day technical and social program.

The welcome BBQ on Sunday (sponsored by Purolite) & formal conference dinner on Monday (sponsored by Swan Analytical), allowed for an enjoyable networking opportunity and provided a platform for international industry professionals to come together and share knowledge.

## CURRENT INDUSTRY

The Australian power industry continues to change in response to changes in the market, including:

- Generation technology – continuing increase in renewables
- Fuel prices – recent significant increase in gas prices
- Government policy - more certainty with planned NEG
- Retirement of ageing plant – closure of Hazlewood
- Power Station leading to higher wholesale power prices on eastern seaboard

These changes can affect which generators are dispatched and how they operate.

## CHALLENGES

The current state of the industry creates some specific challenges for the power station chemist. The increase in intermittent supply to the grid increases the likelihood of plants needing to change load more frequently or start-up with limited notice.

These operating regimes increase the likelihood of corrosion within the water/steam cycle and place more responsibility on the chemist to ensure that optimised cycle chemistry is in place.

## A SPECIAL THANK YOU

API extends a sincere thank you to the Technical Organising Chairman Dave Addison (Thermal Chemistry) and the Technical Committee members Bruce Leitch (AmpControl), Brett Connor (Stanwell Corp.), Barry Dooley (Structural Integrity), Kirk McNaughton (Stanwell Corp.), David Plozza (Atlinta), Geoff Grellman (Energy Australia) and Christian Knott (Osborne Cogen).

This committee did a fantastic job encouraging high quality paper submissions which allowed for a comprehensive technical program.

API would also like to recognise and thank all the major sponsors, exhibitors and conference supporters for their generous and ongoing support of this conference. API recognises that this conference thrives on the collaboration and participation from industry specialists and really enjoys working with the teams from the companies below.



## TOPICS DISCUSSED

This year's presentations covered a wide range of topics, but some common themes emerged.

Case studies of chemistry related plant problems:

- Turbine deposition
- Condenser leakage
- Demineralisation and reverse osmosis
- Microbiological control

Best practice cycle chemistry:

- Historical perspective of Australian power station cycle chemistry
- IAWPS Technical Guidance Documents
- Steam chemistry for turbine operation
- Water cooled stators

Film forming substances:

- Application guidelines
- Case studies
- Consequences of inappropriate application

Measurement and monitoring:

- Corrosion product monitoring systems
- Electrical conductivity theory
- Electrodeionisation for Conductivity after Cation Exchange
- Chlorine dioxide measurement

## OUTCOMES & FINDINGS

A consistent theme that came through in many of the presentations could be summarised as “getting the basics right”. The importance of understanding your plant systems, putting in place appropriate cycle chemistry management, relevant monitoring and measurement and having timely and appropriate responses to deviations from controlled cycle chemistry was emphasised by a number of speakers. The delegates learned of the latest release of freely available Technical Guidance Documents through IAPWS which can assist in this process.

Numerous case studies were presented where chemistry related issues were causing significant plant problems. Delegates learned what led to these situations, how they were identified and how they are being addressed. These presentations provided valuable insights for others in the industry.

The emerging field of Film Forming Substances was the topic of several presentations and much discussion. The complexity of the subject due to the many and varied products available was noted by the speakers, as was the importance of ensuring these products are used in an appropriate manner.

Finally, the conference provided a great opportunity for networking. This is one of the most valuable aspects of the conference, especially for those new to the industry. The format and informal atmosphere allowed power station chemists plenty of opportunity to discuss issues and ideas with industry experts, peers and service providers. While changes and uncertainty in the industry will continue, the APi PowerChem conference helps ensure power station chemists are in the best position to manage these challenges.



*Technical Organising Committee 2018*



*Exhibitors network & share latest developments/products with industry*



*International Keynote Speakers 2018*



*Bobby Svoboda preparing to deliver keynote presentation on Steam Chemistry and Requirements for Turbine Operation*

Delegates discussed problems that have been encountered in plant operations and the challenges in managing water supplies, identifying problems and rectifying these problems accordingly. This includes management of corrosion and scaling problems.

There was also a reminder of the broad responsibilities of a power station chemist in also managing issues other than mega watt plant issues. This included:

- Portable water production and quality control
- Legionella controls in cooling waters

As usual, the conference provided a forum to showcase latest developments in plant and equipment, plus the ability for chemists to share common problems. Networking is a key factor of the conference to discuss plant and process issues and potential solutions; the open forum sessions were well supported with many chemists returning back to their sites either with new ideas or reinforcing concepts which may have had some uncertainty.

The issues faced by power station chemists in Australia are also relayed to other international chemists via Australia's representation in the IAPWS organisation. Based on the feedback to date the conference can certainly be considered a success.

## API POWERCHEM CONFERENCE 2020

API is looking forward to commencing organisation for the next PowerChem conference. Future locations/venue are currently being researched. Stay tuned to the API website and/or subscribe to our monthly newsletter to stay up to date with the latest news and announcements. We hope to see you there!

## 2018 CONFERENCE FEEDBACK

- 83% of respondents rated the conference to be "Excellent/Good" value
- 90% said the amount of presentations was "about right"
- 97% reported the coverage of material was "about right"
- 87% rated the amount of social functions was "about right" where 91% rated them as extremely enjoyable/valuable to their networking
- 93% responded "yes" they would recommend PowerChem to their colleagues



*API PowerChem Asia Pacific Conference Attendees 2018*

*"A great opportunity to keep abreast of the latest developments in cycle chemistry, learn what other stations are doing well (and poorly) and network with colleagues within the industry."*

*"I always learn so much about problems, solutions and innovative improvements that other attendees have made at their plants that I can easily implement at my own workplace which easily pay for the conference/travel costs many, many times over. This year I have made a list of no less than 21 things that I want to address when I get back and every one of them will directly improve safety, efficiency and/or operating costs."*

*"A great collection of industry experts, great plant level examples and sharing of best practice."*

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*Congratulations to Luke Mosele (NewGen Power Station) for winning the Russell Robinson Award for Best Paper 2018!*