



PRESS RELEASE

EPRI 13th International Conference on Cycle Chemistry in Fossil and Combined Cycle HRSG Plants (ICCC13): Details Advances in R&D

EPRI's 13th International Conference on Cycle Chemistry in Fossil and Combined Cycle HRSG Plants was conducted virtually June 22–24, 2021.

The conference was attended by 146 different professionals representing 10 countries, including Australia, Canada, Malaysia, Philippines, Taiwan, South Africa, Switzerland, United Kingdom, United Arab Emirates, and the United States.

The EPRI Boiler and Turbine Steam and Cycle Chemistry R&D program (Program 226) conducts collaborative research led by Program Manager Brad Burns. The collaborative program is a global leader in comprehensive research in power plant steam and water cycle treatment to minimize corrosion and deposition.

The conference is hosted by EPRI every three years. This latest event featured 21 presentations by international experts, equipment manufacturers, chemical suppliers, and power plant chemistry users. Discussions on a wide range of cycle chemistry-related topics added participation value to plant users, equipment and chemical suppliers, and researchers.

Highlights of ICC13 included:

- A plenary session started things off with a presentation by Michael Caravaggio, EPRI, that summarized operational changes in fossil and combined cycle plants arising from renewable energy sources and their impact on the power grid. Doug Hubbard, independent contractor retired from AEP, then discussed how Human and Organizational Science can be a significant impact on a power plant's likelihood to properly respond to a cycle chemistry upset. Finally, Barry Dooley, Structural Integrity, concluded the session with a historical review of cycle chemistry advancements over the past 35 years emphasizing that reduction in chemistry-influenced failures industry-wide has not been commensurate with the level of technology advancement. This tied in perfectly with Doug's presentation stressing the need for better application of well-understood science.
- Sessions 2 and 3 of the conference dealt primarily with research and application of film-forming product (FFP) treatments. Two researchers discussed highlights from recent EPRI-sponsored research projects on the im-

pacts of FFPs on boiler corrosion and online cycle chemistry instrumentation. Four FFP end users provided experience reports from fossil and combined cycle power plants in the U.S. and the U.K. This session clearly demonstrated the advancements in the state of knowledge while highlighting key areas where research and operating experience opportunities still exist.

- Session 4 presentations focused on prevention of major cycle chemistry excursions. Rob Fisher, of Fisher Improvement Technologies, began the session by providing a summary of the human and organizational performance factors that allow chemistry excursions to propagate into damaging events and how these can be mitigated. This was followed by three presentations from different U.S. utilities providing best practices in this area, which included alarm management, response procedures, and remote monitoring and notification utilization.
- One of the key tactics for minimizing major cycle chemistry excursions is the use of smart cycle chemistry alarm logic to provide validated conditions that allow power plant operators to act upon with confidence. Smart alarms can even provide a diagnostic value in many cases. Session 5 of the conference provided experience reports and best practices when applying this technology. This session was also comprised of three presentations from instrument manufactures discussing new technology for smart analyzers.
- Finally, Session 6 included presentations around corrosion product monitoring in cycling plants, layup best practices, and an application report on air-cooled condenser chemistry improvement.

Please contact Brad Burns (bburns@epri.com) for additional information on ICC13 and other EPRI Program 226 activities.

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