

Thermal Generation Interest Group

Today's competitive energy market and environmental concerns require operators to improve efficiency, reduce greenhouse gas emissions and maximize the useful life of their conventional thermal power plants while minimizing both operating costs and capital investments.

The objective of the Thermal Generation Interest Group (TGIG) is to bring together participants from thermal generation and related industries to identify immediate design, operational, and maintenance issues, and to monitor and develop emerging thermal technologies.

Through collaboration on specific projects, the group delivers cost-effective technological and asset management solutions to meet today's industry needs. The program is designed to assist owners and operators of thermal electric-generating units in their efforts to:

- Improve environmental performance
- Lower capital and operations costs
- Extend equipment life
- Improve efficiency
- Increase reliability and reduce outage times for equipment repair and maintenance
- Improve safety
- Improve risk based asset management decision making
- Improve performance evaluation and benchmarking techniques



Topics & Issues

Reliability improvement

Greenhouse gas mitigation and effective pollution control strategies

Improvements in operations and maintenance

Efficiency enhancement

Cost optimization

Life extension

Training, personnel practices, and safety



Technology Coordinator



Duncan Sidey has over 30 years of experience in the power generation industry, including 25 years of involvement working for Ontario Hydro/Ontario Power Generation and further experience as Director of Engineering with AMEC NSS, the largest private nuclear consultancy in Canada.

Mr. Sidey graduated with B.Sc., M.Sc., and Ph.D. degrees in Metallurgy from University College of Swansea, Wales, followed by a post-doctoral fellowship at the University of Cambridge, U.K. and visiting professor at Waterloo University, Canada. He is a registered Professional Engineer in Ontario, and has published and presented over 30 papers in a number of areas, including materials behavior and its impact on the operation and maintenance of fossil power plants, plant life assessment, plant performance troubleshooting and maintenance optimization applications.



Projects

for a complete project listing, please visit: www.ceati.com/tgig

- Damage to CCGT Plant due to Cyclic Operation
- Technical and Economic Analysis, Comparison and Review of available Materials for Replacement of Components in Ageing Power Plant Boilers/HRSGs
- Proof-of-Concept of an Improved Method for Removing Sulfur, Nitrogen, and Mercury Compounds from Power Plant Flue Gases
- Damage to Power Plant Due to Cyclic Operation and Guidelines for Best Practices
- Inspection, Monitoring, Integrity & Life Assessment
- Conventional Power Plant and HRSG Equipment Survey of On-Line Monitoring Techniques & Recommendations for Best Practices
- Boiler Tube Erosion in Thermal Plants
- Guidelines for Inspection, Monitoring, Repair and Maintenance of HRSGs - Based on Review of Worldwide Plant and Research Experience
- Review of the Use of New High Strength Materials in Conventional and HRSG Boilers: R&D and Plant Experience
- Operation and Maintenance Issues with Advanced Combustion Turbines
- Investigation on State of the Art "Expert" Systems for Maintenance of Thermal Power Plant Equipment
- Artificial Intelligence Demonstration Study, Phase 1
- Boiler Tube and Pressure Parts Inspection and Assessment
- Damage to Power Plant Due to Cycling
- Artificial Intelligence (AI) Technology Watch – Project & Workshop
- Non-Post Weld Heat Treatment of Low-Alloy Steels - Long-term Creep Implications

Workshops

- Optimizing Generating Plant Operation and Maintenance
- Boiler Tube Inspection
- Back-End Boiler Losses
- The Integrity of Heat Recovery Steam Generating (HRSG) Equipment
- Artificial Intelligence (AI) Technology Watch
- Going for the Green: Reducing Generation's Environmental Footprint
- Re-Energized Power Plants and Related Issues



Annual Activities

2 Meetings

5-7 Conference Calls

Annual Workshop

Weekly Information Exchange

Participation is open to:

Utilities

Independent Power Producers

Government Agencies

Project Reports

Over the years more than 1300 projects have been completed and published in the fields of:

**Generation; Transmission
Distribution; Utilization**

For a complete listing, please consult our website.

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